HR

HR-400, 800, 1600

INSTRUCTION MANUAL

NUVICO®

VALUE SECURED™

Contents

Contents Verification and Checklists 4
Features 4
Caution 4
Important Safety Instructions 5
Important Notice 6
Warning 7
Before You 8
Standard Approvals 8
I. Controls 9
1. Front Panel 9
2. Rear Panel Connectors 9
3. Remote Controller (Optional) 11
4. Mouse Control 13
5. Virtual Keypad for Mouse Control 13
II. INSTALLATION & CONNECTIONS 14
1. Camera, Monitor, Audio, Alarm sensor and Power cord 14
2. Alarm inputs and Alarm outs 15
2.1. Connection of N.O (Normally Open) 15
2.2. Connection of N.C (Normally Close) 15
III. QUICK START PAGE 16
IV. LIVE VIEWING 19
1. Display Overview 19
2. Multi-screen Display and Sequencing 21
2.1. Screen Display. 21
2.2. Multi-screen Display and Switch Sequencing Display. 21
3. Quick button for multi screen Display. 22
3.1. Quick multi split mode change 22
3.2. Repositioning 22
4. Zooming 23
V. OPERATION 24
1. **LOG IN/OUT.** 24
2. NAVIGATION THE MENU 25
VI. SETUP 26
1. DISPLAY 26

1.1. GENERAL 26
1.2. SWITCH Setup (Monitor Configure) 27
1.3. EVENT 28
2. CAMERA 29
2.1. CAMERA 29
2.2. Set up IP camera MANUAL CONNECTION 29
2.3. DEVICE 31
2.4. LIVE 32
3. RECORD 33
3.1. Record General 33
3.2. Continues /Normal Recording 34
3.3. Event Recording 35
3.4 Continuous + Event (Motion/Alarm) Recording 37
4. SCHEDULE 38
4.1. CHART Setup 38
4.2. Holiday Setup 40
5. DISK 41
5.1. DISK Manager 41
5.2. Recording DISK 43
5.3. S.M.A.R.T STATUS 44
6. NETWORK 45
6.1. LAN Port 45
6.2. GENERAL 46
6.3. EMAIL 49
6.4. SMTP 50
6.5. DDNS (Dynamic DNS) 51
6.6 Router & Port Forwarding 53
7. DEVICE 55
7.1. GENERAL 55
7.2. I/O Terminal 57
7.3. PTZ EVENT 59
8. SYSTEM 60
8.1. GENERAL 60
8.2. TIME 61
8.3. ACCOUNT 62
8.4. UPDATE 64
8.5. INFO 65

VII. PAN/TILT ZOOM CONTROL 66
1. P.T.Z. Menu 66
2. Preset & Tour 68
3. Custom Functions 70
4. Auto Pan / Auto Tilt / Power 70
VIII. PLAYBACK / SEARCH 71
1. Playback 71
2. Time Search 71
2.1 Multi Channel Playback 71
2.2 Preview Search (Single Channel Playback) 72
2.3 Event Record Search 73
2.4 Event Source Search 74
2.5 Motion Area Search (Single Channel Playback) 75
3. Go to Search 76
4. Log List Search 77
IX. BACKUP 78
1. Back Up 78
1.1 External DVD- R/W 78
1.2 External USB Memory Stick 79
1.3 Back up Range Setup 80
2. Backup (FTP): Not available 80
3. Backup (LOG) 81

Contents Verification and Checklists

Before installing the NVR, please make sure that the following items are included in the box:

1. Network Video Recorder
2. Power supply
3. Mouse
4. Software CD
5. Quick Setup Guide

If any of these materials are missing, please contact the vendor or NUVICO customer help desk immediately at (866) 523-1700.

Features

- 4, 8, & 16 channels
- Embedded Linux Operating System
- H/W based true HD Display
- Quadruplex function - simultaneous record / playback / network / backup
- Recording compression method: H.264
- Real-time live display & recording per channel
- Multiple video outputs
- User friendly graphic menu & Intuitive mouse GUI
- Backup device: USB
- Watch dog / power failure recovery
- Firmware upgrade via USB

Caution

Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

Important Safety Instructions

Read these operating instructions carefully before using the unit.

Follow all the safety instructions listed below.

Keep these operating instructions handy for future reference.

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings; Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding- type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Important Notice

1. This equipment is indoor use and all the communication wiring are limited to inside of the building or similar texts.

2. "Rack Mount Instructions - The following or similar rack-mount instructions are included with the installation instructions:

A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

E) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips)."

Warning

Battery

It is essential that when changing the battery in the unit, the replacement battery must be of the same type, otherwise there may be a possibility of an explosion.

The following are the specifications of the battery you are using now.

- Normal voltage : 3V
- Normal capacity : 170mAh
- Continuous standard load : 0.2mA
- Operating temperature : -20°C ~ +85°C (-4°F ~ +185°F)

NVR Shutdown

Turning off the power while the product is in operation, or undertaking improper actions may cause damage or malfunction to the hard drive or the product.

Please turn off the power following the proper shut down procedure.

You may want to install a UPS system for safe operation in order to prevent damage caused by an unexpected power stoppage. (Any questions concerning UPS, consult your UPS retailer.)

Operating Temperature

The guaranteed operating temperature range of this product is 0°C ~ 40°C (32°F ~ 104°F).

This product may not work properly if you run right after a long period of storage at a temperature below the guaranteed one.

Prior to using a device that has been stored for a long period in low temperatures, allow the product to stand at room temperature for periods of time.

For the built-in HDD in the product, its guaranteed temperature range is 5°C ~ 55°C (41°F ~ 131°F). Likewise, the hard drive may not work at a temperature below the guaranteed one.

Before You

This user manual provides Information for using the NVR such as brief introduction, part names, functions, connection to other equipment, menu setup, etc.
Please be advised that:

- NUVICO retains the copyright on this manual.
- This manual cannot be copied without NUVICO's prior written approval.
- We are not liable for any or all losses to the product incurred by your use of non-standard product or violation of instructions mentioned in this manual.
- Prior to opening the case, please consult a qualified technician first. Whenever this is needed, power cord must be removed from the unit.
- Before connecting external storage device such as USB devices, check the compatibility.

Standard Approvals

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at one's own expense.

I. Controls

1. Front Panel

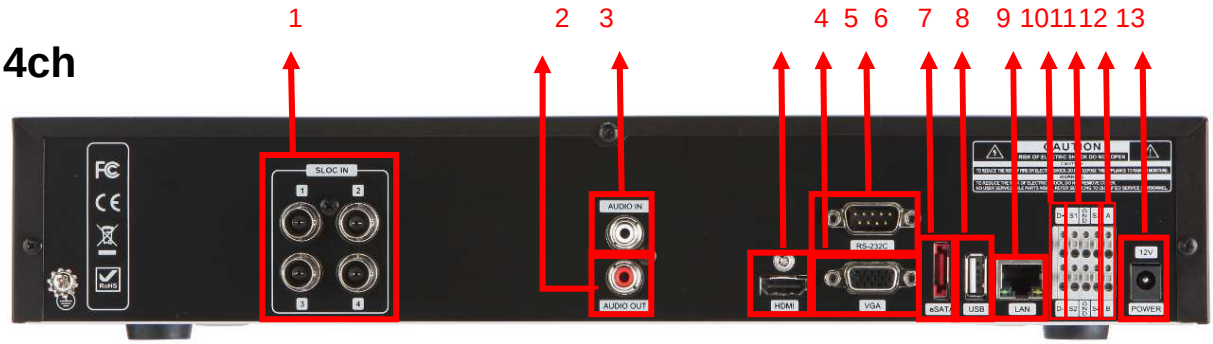
Mode Indicator: 4 LEDs display the status of the Network Video Recorder.

- PWR : Power ON / OFF status
- HDD : Blinking if Recording in the HDD or Playback
- NET : Network connection
- STATUS : Responding with Buzzer

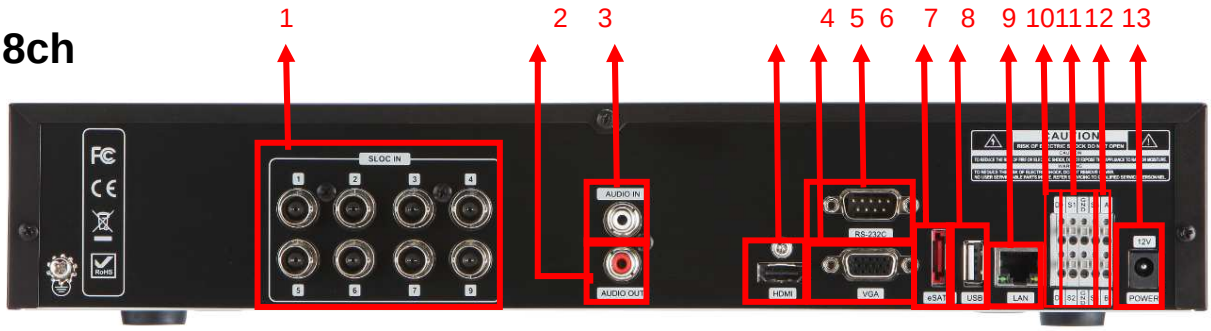
1) **USB** : USB compliant port allows use of memory stick to backup video files or S/W upgrade and Mouse.

2. Rear Panel Connectors

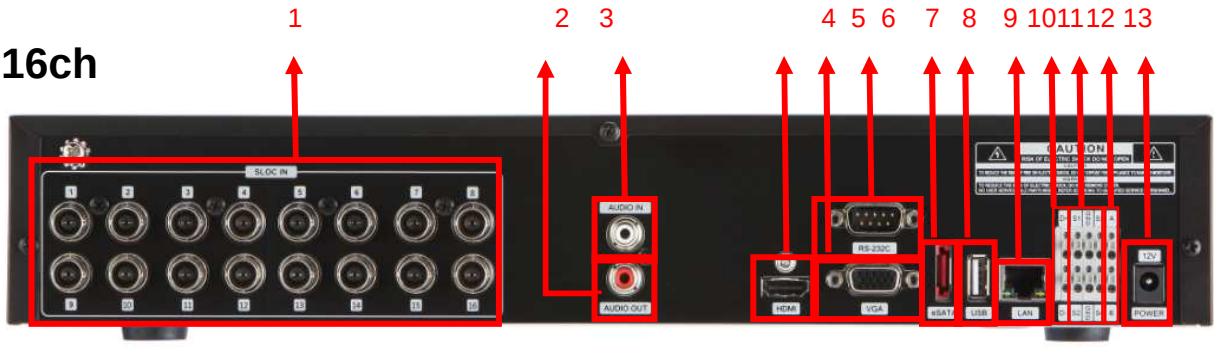
4ch



8ch

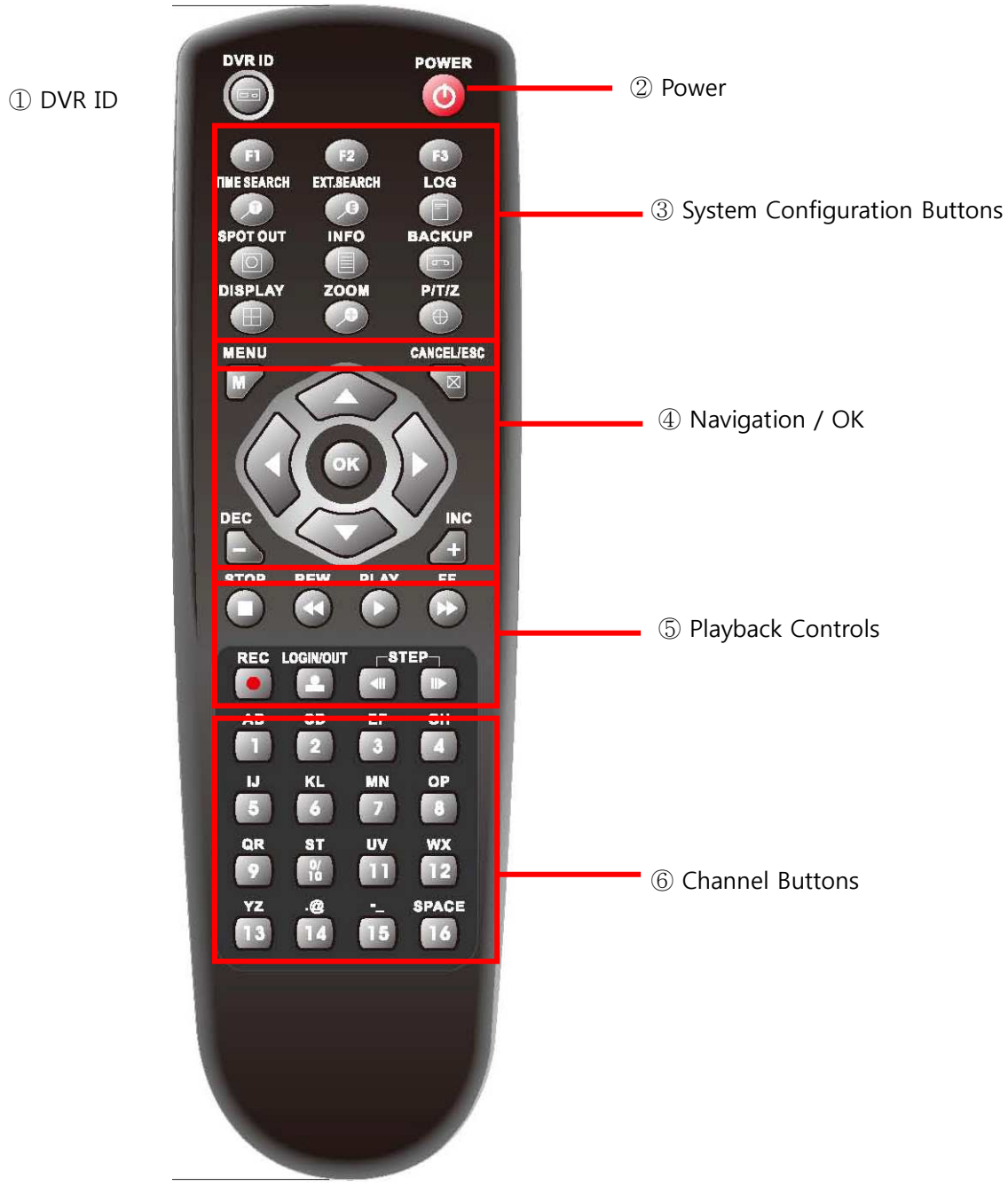


16ch



1) **Hydra Camera input**
2) **AUDIO Output connector:** RCA port (mono) for audio output.
3) **AUDIO Input connector:** RCA port(mono) for audio input.
4) **HDMI out connector**: Used as the main video output.
5) **VGA out connector:** Used as the main video output
6) **RS-232C [D-SUB 9PIN]:** For connecting to Debugging.
7) **e-SATA connector**: For connecting e-SATA compatible devices.
8) **USB 2.0 connector:** For connecting USB compatible devices.
9) **LAN Port:** For connecting to remote PC via Ethernet network.**10/100/1000 BASE-T**
10) **RS485 :** To connect and control PTZ IP Cameras
11) **Alarm Input :** To connect Alarm input device
12) **Alarm Output :** To connect the Alarm output device
13) **POWER(12V) :** DC power Jack for NVR unit

3. Remote Controller (Optional)



DVR ID: Set the proper DVR System ID through which to operate. Press the ID button, and then press the number button within two seconds to select the system ID of the NVR. If you set the System ID to Zero, you can control multiple NVRs at the same time.

- Letters in Device

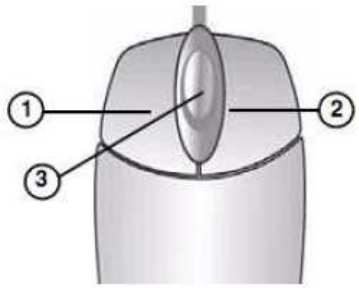
Allows you to create a unique name for each camera and put figures in set up menu.

User can use the virtual keyboard or press the appropriate numeric button on the IR Remote or the front panel.

No	1st	2nd	3rd	4th	5th	6th
1	a	b	1	A	B	1
2	c	d	2	C	D	2
3	e	f	3	E	F	3
4	g	h	4	G	H	4
5	i	j	5	I	J	5
6	k	l	6	K	L	6
7	m	n	7	M	N	7
8	o	p	8	O	P	8
9	q	r	9	Q	R	9
10/0	s	t	0	S	T	10
11	u	v	U	V		
12	w	X	W	X		
13	y	z	Y	Z		
14	.	@	.	@		
15	-	_	-	_		
16	space					

<On IR Remote Controller >

4. Mouse Control



This NVR can be controlled by the mouse. Connect the mouse to the USB port before use.

1) **Left-Button** -Double Click on any channel to enlarge to full screen while in a split-screen display mode.
Double click again to return.
Select the menu option while navigating through various menu options.

2) **Right Button**- Right click anywhere on the screen to open main menu. Double click to return.
3) **Scroll Wheel:** move the scroll wheel up or down to increase/decrease the value of the selected menu option.

5. Virtual Keypad for Mouse Control

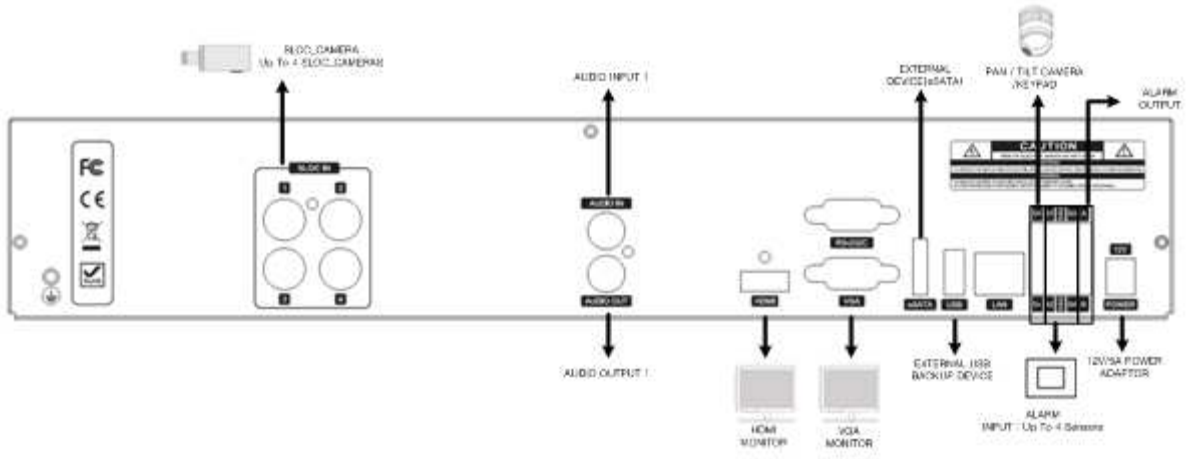
This system provides a virtual on-screen keyboard to perform the control by mouse. Connect a mouse via USB port before use. If you click right button of your mouse in Live mode and Playback mode, you will see following virtual controller. Right Click again to clear the menu.

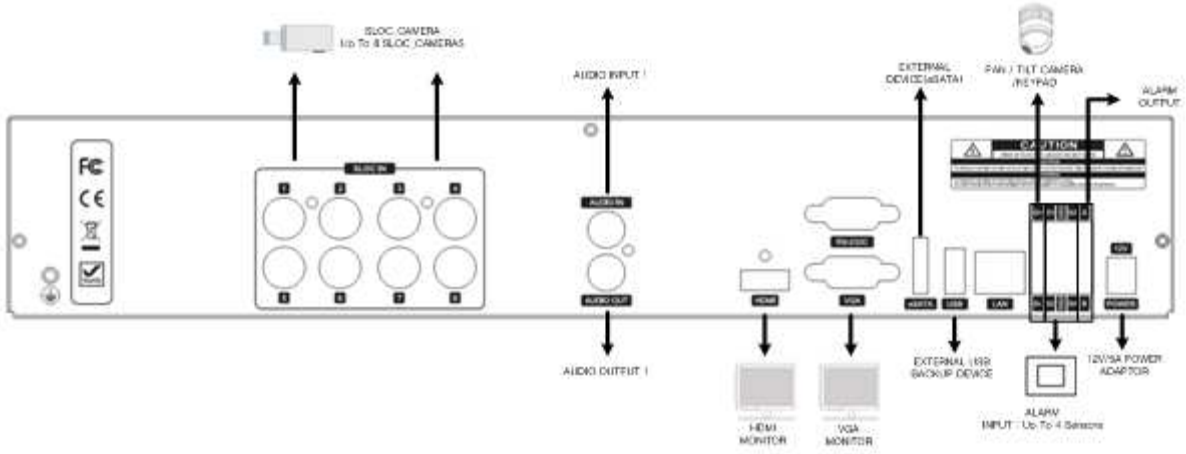
<Password >

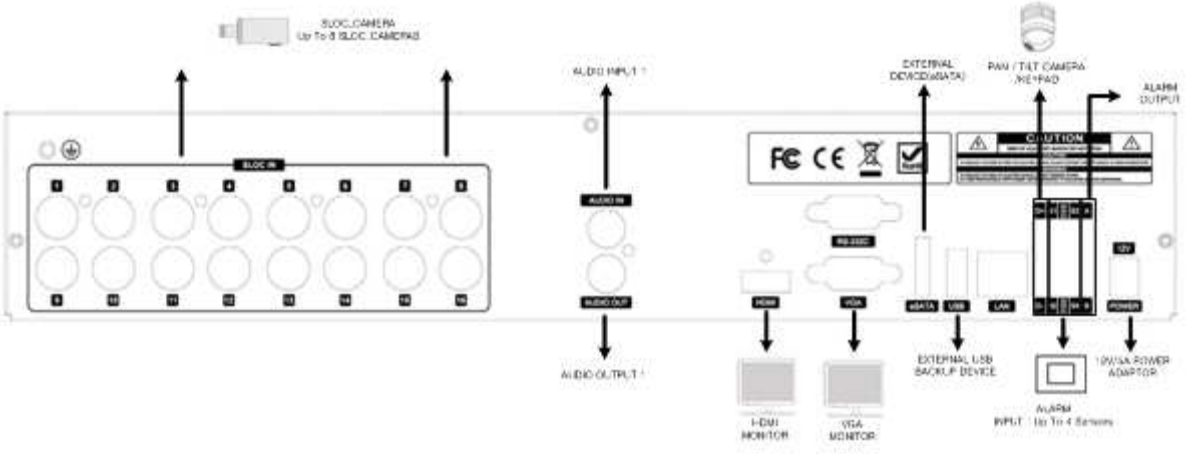
<Playback>

II. INSTALLATION & CONNECTIONS

1. Camera, Monitor, Audio, Alarm sensor and Power cord

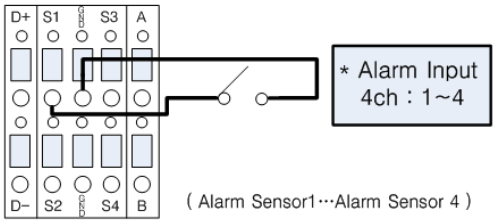


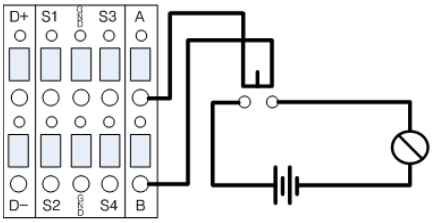




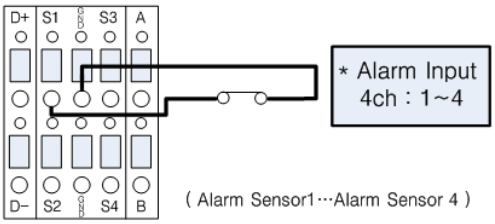
2. Alarm inputs and Alarm outs

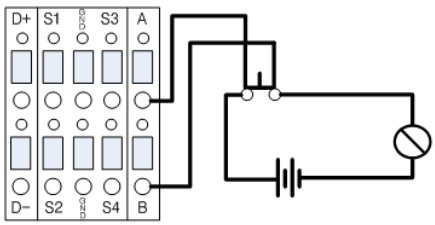
2.1. Connection of N.O (Normally Open)





2.2. Connection of N.C (Normally Close)





III. QUICK START PAGE

ADMIN and the default password is “**000000**”. (6 zeros)

The Default User name is “**admin**” and password is “**000000**”. (6 zeros)

Main Menu

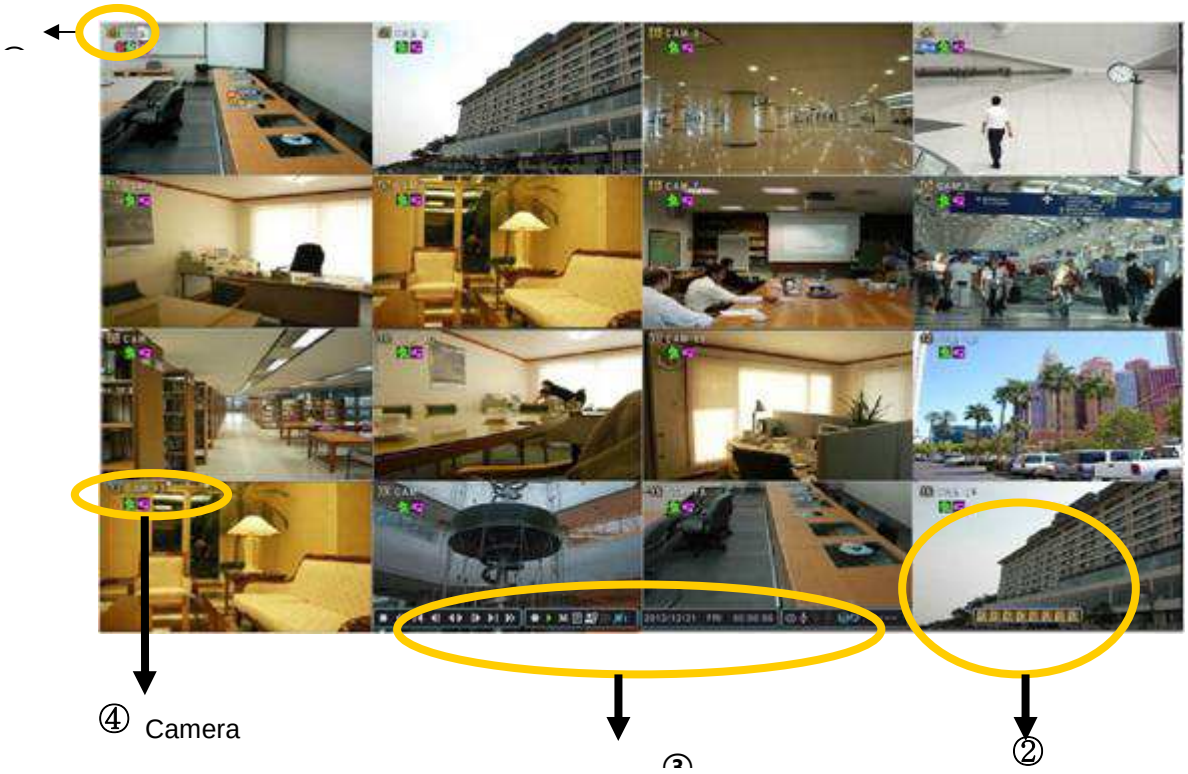
SETUP
POS SEARCH
TIME SEARCH
BACKUP
EXT. SEARCH
DISPLAY
LOG
SETUP
P.T.Z.
PLAYBACK
POWER
SYSTEM INFO
ZOOM

Time & Date Setting

When the NVR is powered on for the very first time, the time and date are set as default to January 1, 2009 Thursday 01:00:00. Before any other operation of the Network Video Recorder, it is important to setup the time and the date. Please refer for setting the time and the date on the NVR.

IV. LIVE VIEWING

1. Display Overview



1. Recording Mode

Background color of Number will be different based on the recording status.

1) Red - Event (Motion/Alarm) Recording
2) Yellow - Continuous Recording
3) Black - No Recording.

2. Event Indicator (1) (2) (3)

(1) Indicate **Alarm** In terminal is triggered by an alarm sensor.

To appear Alarm window, press **[UP]** button. This button toggles between Shows or Hide the Alarm Window.

(2) Indicate **Motion** detected. To disappear, press [ESC] button.

(3) Indicate **Video Loss** during Recording. To disappear, press [ESC] button.

3. Status Bar

(1) This ICON will be shown only on play back mode.

(2) Indicate **Recording** Status. Red is Recording. Click this ICON to toggle Record Start and Stop.

(3) Indicate **Playback** Status. Green is Playback. Click this ICON to toggle Playback Start and Stop.

(4) Indicate **Menu**. Click this ICON to popup the menu.

(5) Indicate **LOG**. Click this ICON to popup log history.

=> After click **Menu** and **LOG,** the status bar is changed like below picture.

Please click ICON to clear **Menu** and **LOG.**

(6) Indicate Login( ) or Locking status. Click this ICON to toggle Log in and out.

(7) Indicate **Audio** Data is stored the selected time during playback and turn to blue color.

(8) It shows **Number of Client**, which is connected to Network.(MAX:10)

(9) Displays Month, Year, Time and Date. Change the order on System>Time.

(10) Indicate an **USB Device is connected on Front panel and Rear panel.**

It's changed to blue color while it's doing backup. Click this ICON to toggle Back up Start and Stop.

(11) : Show you the remaining recording time of the NVR. If remaining HDD capacity is less than 5GB, this blue "Recycling" icon will be shown up.(DVD icon would not be shown some models if DVD-RW is not supported)

2. Multi-screen Display and Sequencing

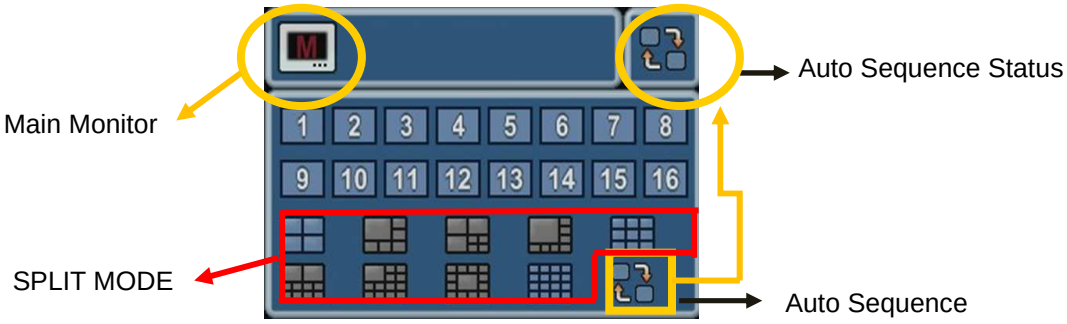
2.1. Screen Display.

Select any camera for Full screen display by pressing the Number button of the desired camera. for 12ch, press 1 then 2.

2.2. Multi-screen Display and Switch Sequencing Display.

1) Press **[DISPLAY]** buttons to activate the multiscreen display. It is changed the order as shown below among your choice of SPLIT MODE.
2) To start Auto Sequence, press **[DISPLAY]** buttons for 2 seconds to begin full screen sequencing.

Click this ICON by Mouse and spot out button on the remote control, you will see following virtual controller



3) The Auto sequence mode and dwell times are programmable in Switch set up. For detailed information about configuring those, see "**Switch Setup".** If the sequence mode is not stopped, it moves to split mode instead of Sequencing.

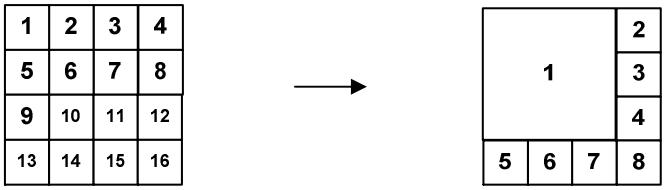
4) The Split mode is programmable in General set up.

3. Quick button for multi screen Display.

3.1. Quick multi split mode change

- Press F1 button on the remote controller + <Number>

For example, press F1 button then number 8.



The eight channel view mode will be displayed.

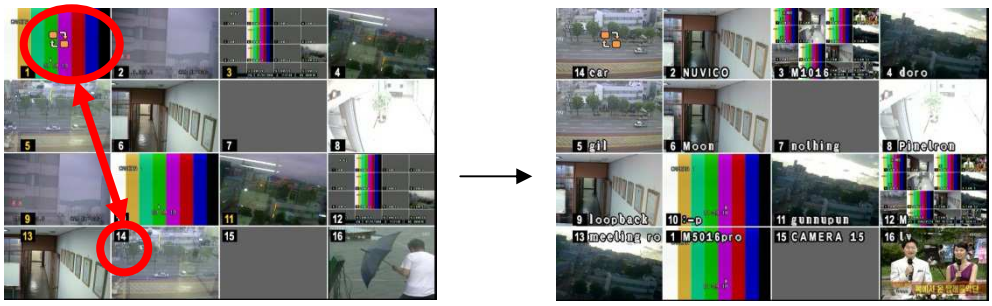
<Note> 6,4,8,10,13 split mode must be checked on <Spit mode> to use this function.

3.2. Repositioning

It is possible to reposition the camera from the bigger window with the one from a smaller one. It is used on 6,7,8,9,10, 13,16 split mode

① Press **F2 button** on the remote controller. Mark will be displayed.

② Press Numeric button you wish to switching display.



③ Press **[MENU]** button to exit here with saving changes.

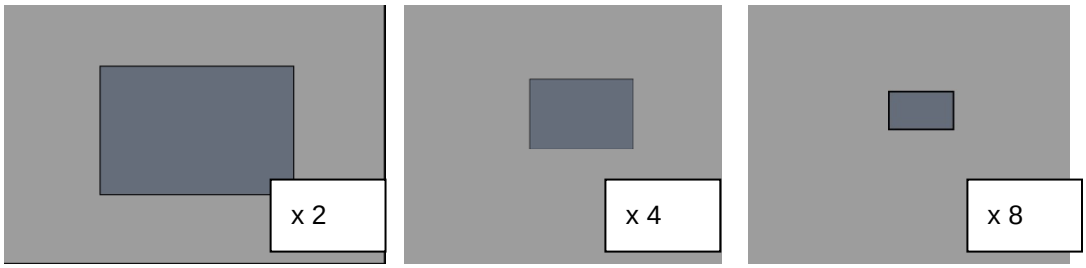
Press **[Cancel]** to exit without change.

Press **[DISPLAY]** button to rearrange.

4. Zooming

During live view mode, it is possible to zoom into a section of the screen to get a close-up view of the screen.

1. To activate the digital zoom, select the full screen display of the camera you wish to zoom.
2. Then press the **[ZOOM]** button on IR Remote controller. Zoom area box pops up, as shown below.



3. Move the box to the desired position using Direction [▲▼◀▶] buttons.
4. Press [+] button to enlarge the image. Press [-] button to zoom out the image.
5. Press [ESC] button to return normal mode.

<Note>

- If the Zoom button is pressed while in a multi-screen display, zoom operation is not activated.

V. OPERATION

1. **LOG IN/OUT.**

You must log on to the NVR with valid password to operate the NVR. By default, it comes with one login account; ADMIN and the default password is "**000000**".

<Note > If you are logging on for the first time, the system does not prompt you to change the default password. Therefore, it's strongly recommended to change the "PASSWORD" when you install the NVR. Refer to [System Setup].

1. Login
   1) On the front panel or remote control, press the power button.
   2) When the NVR is powered on, it will start to scan NVR status.
   3) Live Viewing screen will appear after initialization about 50sec. It can be delayed when you have defect HDD, it will try to fix for logical problem but it will show you warning message for physical problem.
   4) On the remote control, press Login. Using the mouse, click the login icon, login dialog box pops up.

   5) Login Icon will be changed on status bar.

2. Logout
   On the remote control, press LOGIN. Using the mouse, Press Login icon again, indication you are logged off.

2. NAVIGATION THE MENU

1. Log on the NVR at admin level or user with configure level.
   * User with configure feature is limited to access [DISK and System Menu].
2. On the front panel or remote control, press **[MENU].** Using the mouse, Right click wherever on monitor, Menu will be appeared.

3. Use Direction buttons [◀▶ ,+/-] to select the desired menu. Using the mouse, click the menu. Items selected.
4. Press [OK] button to select the menu and display Sub-Menu. Using the mouse, double click.
5. Use Left/ Right buttons [◀▶] to select on TAP menu. Selected items changed into **[Orange]** color.

Selected **Not selected** **Inactivated**

**** It is automatically saved changes when you move between TAP menus.***

6. The menus are displayed with options on the left-hand column and settings in the right hand column. A cursor (highlighted menu) can be moved using the Direction buttons [▲▼◀▶].
7. Press **[-, +] or wheel** button to change the value or select options. By mouse, using Wheel.
8. Press **[SAVE]** button to exit a menu with saving changes.
9. Press **[ESC]** to exit a menu without changes.

VI. SETUP

1. DISPLAY

1.1. GENERAL

1. The menus are displayed with options on the left-hand column and settings in the right hand column. A cursor (highlighted menu) can be moved using the Direction buttons [▲▼◀▶] .
2. Change below options using [DEC/INC] buttons.

ITEM	ADJUSTMENT
STATUS BAR	• Select “Show” or “Hide” below status bar on Main Monitor.
CAMERA INFO	• Select On-Screen-Display information for Camera Number and Title.
BORDER LINE	• Select Board Line between cameras. **[GRAY → WHITE →BLUE → BLACK →DARK GRAY]**
BACKGROUND	• Select Background color on NO VIDEO status. **[GRAY → WHITE →BLUE → BLACK →DARK GRAY]**
OSD ALIGNMNET	• The main video output can be displayed on a VGA and analog monitor. Video can be displayed on both monitor simultaneously. Select On-Screen-Display coordinates on Monitor. - Under scan: Displays properly at CCTV Monitors - Over scan: Displays properly at VGA Monitors.
SPLIT MODE	• Display is changed the order as shown below among your choice of SPLIT MODE.

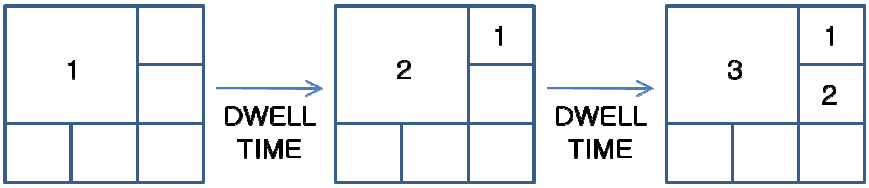
3. Save changes and exit the menu, press [SAVE] button.
   Exit the menu without making changes, press [ESC] button.

1.2. SWITCH Setup (Monitor Configure)

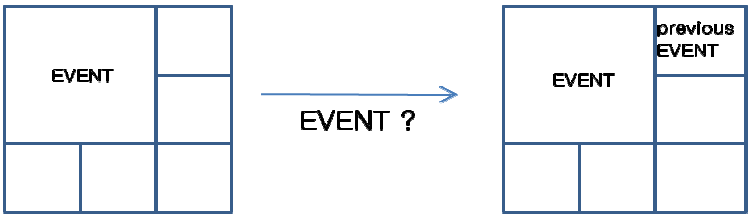
The menus are displayed with options on the left-hand column and settings in the right hand column. A cursor (highlighted menu) can be moved using the Direction buttons [▲▼◀▶] .

1. Settings
   1) Device: It is set by Main monitor.
   2) Dwell Time: Select the interval that each camera or Multi screen mode is displayed in a rotation. Use **[-, +]** button to change : **[1 second ~ 30 second]**

   3) Mode: Select the appropriate monitor display to making any adjustment. This Mode will be activated while it's in Switch Mode.
      a. **Sequence:** Automatic Sequence.
      b. **Shift:** Selected camera will be displayed after dwell time.



      c. **Event**: To display particular camera in full screen or in multi mode when event triggered.



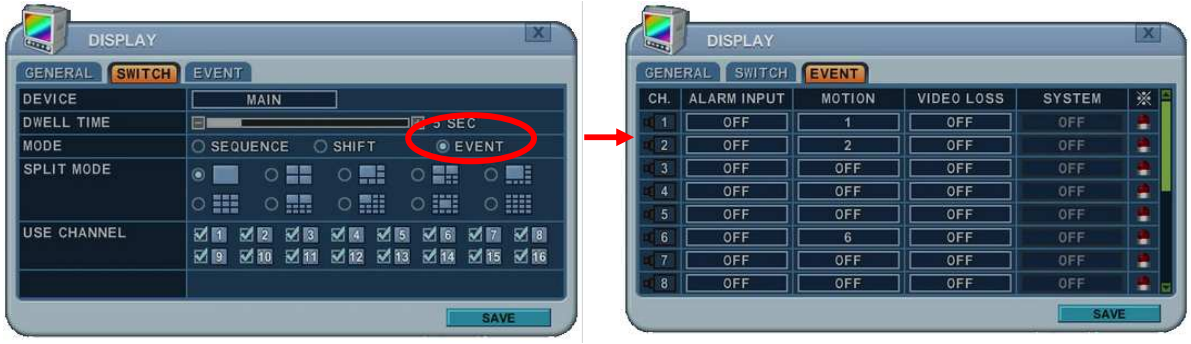
   4) SPLIT MODE : Select desired sequence mode to switching.
   5) USE CHANNEL: Select the cameras to be inclcuded or excluded from the automatic switching.

2. Save changes and exit the menu, press [MENU] button.
3. Exit the menu without making changes, press [ESC] button.

4. Press **[Display]** button for 2 seconds to start Auto Switch cameras on Main Monitor. Press **[Spot]** button then **[Display]** for 2 seconds to start auto switch cameras on Spot Monitor

1.3. EVENT

This menu will be activated when you select <EVENT> Mode for Switch. Event menu will allows customization of motion, alarm and video loss.



When selected event trigger such as alarm, motion or video loss, it will be displayed at the monitor that is configured for event.

2. CAMERA

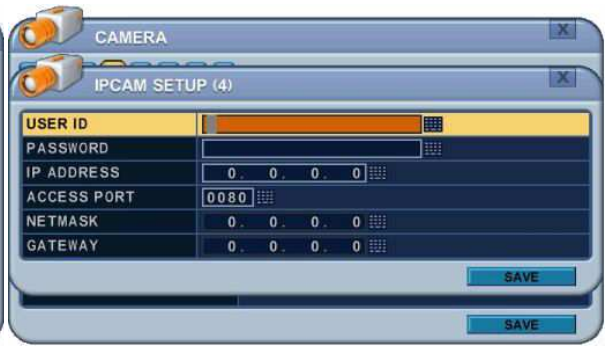
Press Left/Right buttons [◀▶] or number button to select the desired camera
Camera will be activated if IP Camera is connected. Camera Channel option is highlighted and the camera settings are displayed.

2.1. CAMERA

ITEM	ADJUSTMENT
CONNETION	• Select connection method - Auto : S.L.O.C. camera connection - Manual : IP camera connection (LAN Port)
PROTOCOL	• Select camera type
TITLE	• Put the camera name
IP INFO	• Show camera brief information
CONFIGURATION	•.Set up details about camera
PTZ	• Set up PTZ camera

2.2. Set up IP camera <u>MANUAL CONNECTION</u>

1) Select “MANUAL” on connection after that USE check box and SETUP button will be shown like below picture.
2) Select USE check box and press SET UP button to put IP camera information
3) Put user ID, PW , IP address and port of IP camera.



Press SETUP button on CONFIGURATION to see detail information or set up function of camera.

1) INFO

- MODEL BRIEF:

IP Camera information

- HOSTNAME:

IP Camera's own name

- STATUS:

Show temperature of IP camera

- VERSION:

: Show current version of IP camera

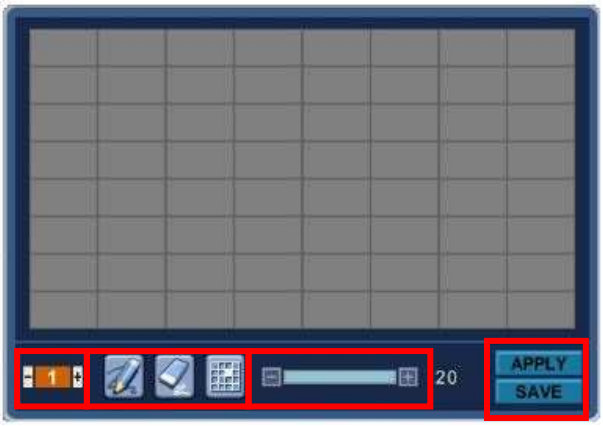
2) CAMERA

ITEM	DEFAULT	ADJUSTMENT
Day & Night	Auto	• Control True Day/Night (TDN) operation. [Auto – DAY – NIGHT] - When Auto is selected, the IR-cut filter will be off automatically in low-light scenes. -When Day is selected, the IR-cut filter is on at all times. - When Night is selected, the IR-cut filter is removed at all times.
DNR	Middle	• Improve picture performance in low light by reducing video noise. [Off- Low- Middle- High]
Enhancement	OFF	• Select Off, BLC and WDR as a backlight revision.
White Balance	Auto	[Auto - Auto High - Auto Low]
BRIGHTNESS	50%	• The brightness of each camera can be adjusted by pressing [-,+] buttons.
CHROMA	50%	• The chroma of each camera can be adjusted by pressing [-,+] buttons.
ORIENTATION	NONE	• Set the way of reversing the image as up and down**[FLIP],** left and right**[MIRROR]**

2.3. DEVICE

1) MOTIOM

Press SETUP button to set up motion function.



a. Motion Zone: Set up to 4 Motion areas defined by selected parts.

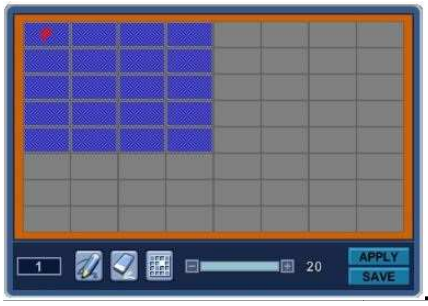
b. Motion Grid: The area property is highlighted and motion detection can now be observed in the view window. **By default, it's set to OFF**.

- : Select All. Press [OK] to select.
- : Clear All. Press [OK] to select.
- : Select specific. Press [OK] to select.

c. Motion Level: The sensitivity settings are: 1: Low sensitivity ~ Level 20: High sensitivity. **By default, the level is set to 10.**

d. APPLY: Save changed set up.

e. SAVE: Save changed set up and exit automatically.



To define the motion view area cell-by-cell, do the following:

On the front panel or remote control, press any of direction buttons to highlight a cell in the motion detection area, then press [OK]. This area is selected and the cells are highlighted in a blue color.

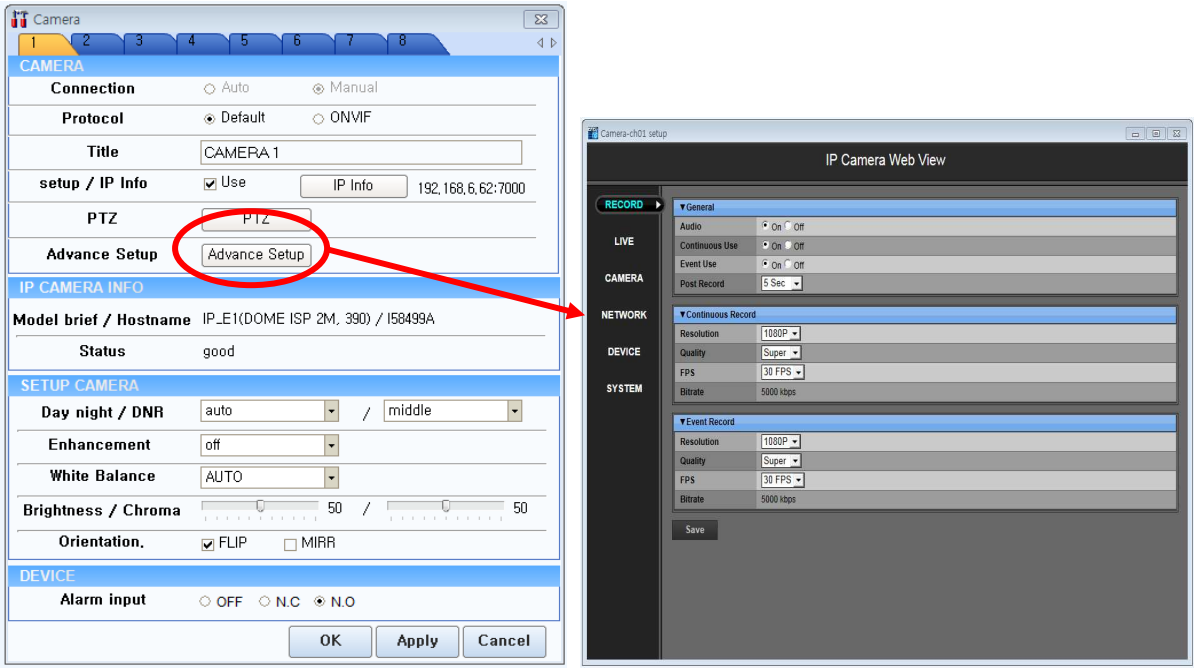
A. Zoom [Easy Focus]

: This Menu will be activated when Easy lens installed. Even you think the focus is perfectly set through potable monitor, HD monitor displays a blur image.

After Zooming in/out, the view will be automatically focused.

2.2. Advanced Setting.

To access more controlling of IP Camera, please try to connect trough EMS 2 S/W,



2.4. LIVE

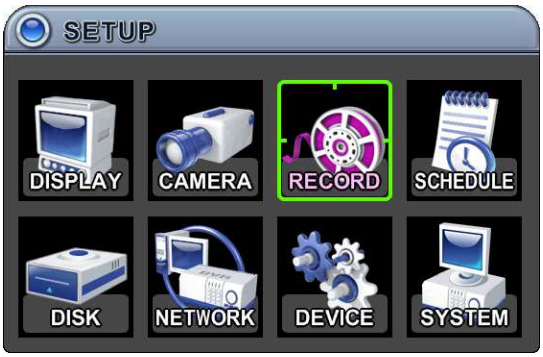
This model use same streaming for live view and network streaming.

So, user can select two options below.

ITEM	DEFAULT	ADJUSTMENT
PRIORITY	NETWORK SPEED	• Network speed is faster, but live image quality is worse.
	IMAGE QUALTIY	• Network speed is slower, but live image quality is better.

3. RECORD

3.1. Record General



1. The menus are displayed with options in the left-hand column and settings in the right hand column. A cursor (highlighted menu) can be moved using the directional buttons [▲▼◀▶] .
2. Change the options shown below using the [DEC/INC] buttons.
   1) **Schedule Use**: This enables or disables Night Zone. **By default "OFF".**
   2) **Boot up Record**: The NVR starts recording without pressing the [REC] button when it is set to **"ON"**.
   3) **Disk Overwrite**: Selects the record policy of the hard disk drive.
      - **ON: By default,** the hard disk drive overwrites from the beginning when it becomes full.
      - **OFF:** Stops recording when the HDD is full.
   4) **Auto Delete**: Allows you to configure when the NVR automatically deletes all data from HDD. It leaves the data for a selected duration from the current time. [NONE → 12HOURS → 1DAY~ 6DAYS → 1WEEK ~ 4WEEKS-> 30 DAYS]
   5) Pre-Record: Determines the duration the NVR stores recorded video prior to the beginning of Event Recoding **[5SEC ~ 300 SEC]. By default 5 sec.**
   6) Post- Record: Determines the duration the NVR continues to record for after an Event detection **[5SEC ~ 300 SEC]. By default 5 sec.**

<Note>1. Alarm/Motion Duration is extended if there is another Alarm/Motion detected whilst Event Recording.

2.When recording, the Pre-Record and Post-Record will not be activated.

3.To save changes and exit the menu, select [save] then press the [MENU] button.

4.To exit the menu without making changes, press the [ESC] button.

3.2. Continues /Normal Recording

The NVR comes with certain preset settings from the factory. Therefore, once the NVR is installed immediate recording is possible by pressing the record button. By default, audio, alarm, motion recording are off.

The NVR records video data continuously over a 24 hour period. Recording setup is for normal recording. Different settings can be configured for each camera. To copy the setting to another channel, press **[Display]** button.

ITEM	ADJUSTMENT
Audio	• Select Audio Record ON/OFF
RES.	•Display selected resolution in MODE tab.
RATE	• Select recording speed for each camera.
QUALITY	• Specify the record picture quality for each camera. SUPER → **HIGH** → MIDDLE →LOW

3.3. Event Recording

Users can set different event recording parameters on a camera by camera basis. Set the continuous recording to [OFF] and configure the Event Recording speed and Quality for each camera.

Determine whether Alarm, Motion, Video Loss is used for EVENT recording on the **[DAY EVENT]** tab.

3.3.1 Alarm Recording

One Alarm input can be configured to one channel. One camera channel can be assigned to multiple alarm inputs.

a. Press **[-, +]** button to change the value or select options. With a mouse, use the wheel.
b. **[※]** indicates multiple alarm sources are selected.
c. Please refer to [Device/Alarm] for Alarm inputs and outputs.

3.3.2 Motion Recording

One Motion Detection can be configured to one channel. One camera channel can be assigned to multiple motion detection.

a. Press **[-, +]** button to change the value or select options. With a mouse, use the wheel.
b. **[※]** indicates multiple alarm sources are selected.
c. Please refer to [CAMERA] menu for Motion setup.

<Note> There may be cases when the recorder's built-in motion detection function does not operate properly due to the condition of the input video signal or other factors.

3.3.3 Multi Event Recording

1) Video Loss: When Video Loss occurs it can be configured to one channel. One camera channel can be assigned to multiple Video Losses

2) Event Edit

- Press [OK] to edit multiple events. The menus are displayed with options in the left-hand column and settings in the right hand column. A cursor (highlighted menu) can be moved using the directional buttons [▲▼◀▶] on the IR remote or front panel.

- Change options using the [DEC/INC] buttons on IR remote or by clicking the mouse button.
- System menu are not activated in this section

3.4 Continuous + Event (Motion/Alarm) Recording

Continuous and Event recording can be set simultaneously. The NVR records video continuously over a 24 hour period, but if an Event occurs, the recording speed and picture quality can be set to values different from continuous recording values.

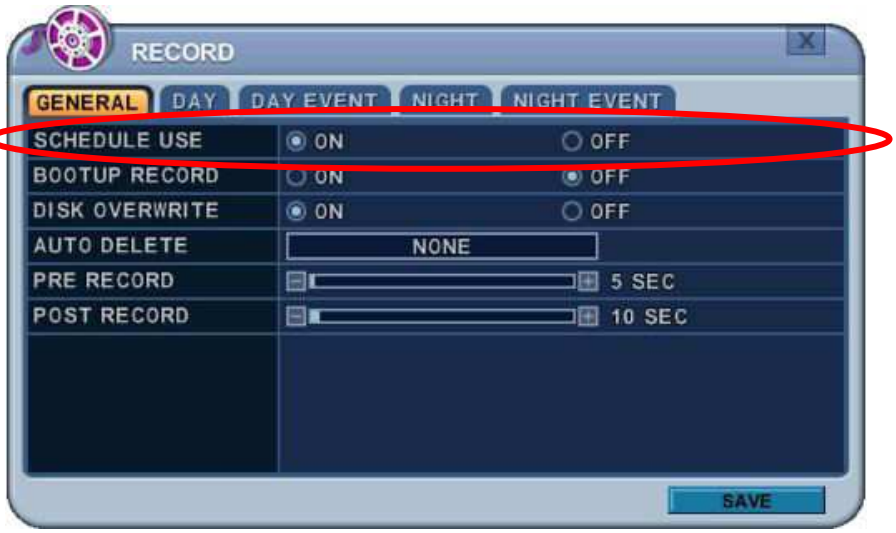
<Example>

Pressing the **REC** button, **Normal** recording starts with High picture quality at 6F/S. When an **Event** is triggered on this channel, it changes to record with Super picture quality at 30 F/S. It reverts back to **Normal** Recording after the Event duration ends.

<Note> Please determine Event source, such as Motion, Alarm, Video Loss on the **[DAY EVENT]** tab.

4. SCHEDULE

When the schedule is on, users can define their own daytime, night time, as well as specified date settings. A schedule can be used to record selected cameras at different times, change record rates, and select whether Alarm or Event is enabled. By selecting Schedule Use “on” Record setup, Night Mode will be activated.



4.1. CHART Setup

The schedule chart shows a graphical representation of the defined record mode. Night mode will be set by default. However, the schedules are only displayed if a corresponding schedule has been configured in the schedule menu.

* DAY (Yellow): Follows day setting on record.
* Night (Green): Automatically follows night setting.
* No Record (Blue): The video is displayed, but is not recorded.

1) A cursor (highlighted menu) can be moved using the directional buttons [▲▼◀▶].
2) Select each day to configure, press [OK] or click the mouse button.
3) Detailed menu pops up for the selected day, as shown below.

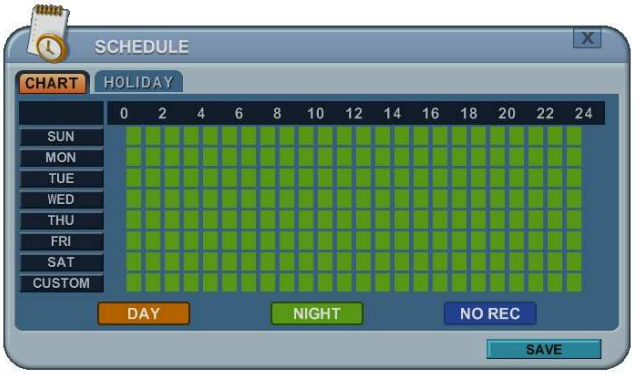
a. Use **[-, +]** button to change the values.
- Mode : **[Night**] **→[Day] →[No Rec]**
- BEGIN: The time recording starts.
- END: The time recording ends. The end time must not be before the starting time or the same as the starting time.

b. Save changes and exit the menu, select [save] then press the [OK] button. Exit the menu without making changes, press the [ESC] button.

4) Copying Schedule

a. A cursor (highlighted menu) can be moved using the directional buttons [▲▼◀▶] on Day (Sun – Sat)

b. Press [Display] button on the desired setting.



4.2. Holiday Setup

This allows you to create up to 32 holidays. If a holiday schedule occurs on the same date as a weekday schedule, the holiday schedule overrides the weekday schedule.

1) A cursor (highlighted menu) can be moved using the directional buttons [▲▼◀▶].
2) Select each day to configure, press [OK] or click the mouse button.
3) Use the **[-, +]** buttons to change the values.
   - Mode : **[OFF]** →**[Day]** → **[Night]** →**[No Rec]** → **[Sun~Sat]** →**[Custom]**
   - Date: The date Holiday starts.
   - Days: The holiday duration [1 to 15 days].

5. DISK

5.1. DISK Manager

Disk Manger is used to format hard disks and to assign the HDD usages, such as back up.

1. **Select**

   1) The menus are displayed with options for all installed HDD's or ODD list.

   1) Press up/down [▲▼] buttons to highlight Hard Disk or ODD, then press **[-, +]** button to select. Using the mouse, click the HDD option.

   2) Device & Size: This information lists the installed drives and their respective capacities, which is not currently used.

   3) Status:

      a. Unknown: New installed Disk.

      b. Empty: Formatted but not used in current NVR.

      c. CD/DVD: CD or DVD is installed for back up use.

      d. Record Data: HDD stored Recording data but not used in current NVR.

      e. Back Up Data: HDD stored Back up data.

      f. Other Data: Neither Back Up nor Recording Data, including AVI file.

      <Note>: Disconnected Disks disappear from the Disk Menu.

2. Action :

   1) None: By default.

   2) **Assign to Record Disk**: Initialize the selected HDD. It formats the drive and all data on the drive is erased. External SATA HDD can be used to extend HDD capacity. Selected HDD will move to [Recording Disk] after formatting.

   3) **Initialize for Back Up**:

      Selected device, such as Media or External HDD, is formatted for backup use. Here's the guide for backing up data to various devices.

Once you press the start button, this pop-up window is displayed to ask you to confirm the initializing for back up: YES or NO.

4) Link Record Disk

: This function is used for adding [used HDD] from the same model without formatting.

< Note: There are limitations for using this function >

A. NVR should be empty (NO HDD). If RECORDING DISK's exist it does not work.

B. The used HDD should be from same series. It's does not work with different series.

C. There should be no time duplication in the HDD.

Device	ODD (Media)		HDD	
	CD/DVD±R	CD/DVD ±RW	SATA	USB
Media can be formatted	X	O	O	X
Device can be formatted on a PC using FAT 32, NTFS File system.	X	X	O	O
Media must be formatted on NVR before backing up or exporting data to the device.	X	O	Δ	Δ

<Note1> USB flash memory is working without format.

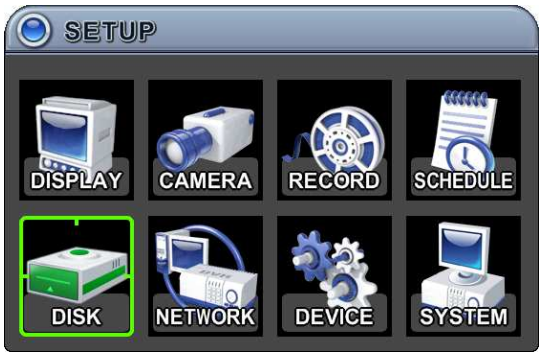
<Note2> if a FAT32 /NTFS formatted external USB device is installed, <Assign to Record Disk> feature is disabled. It's limited to back up only.

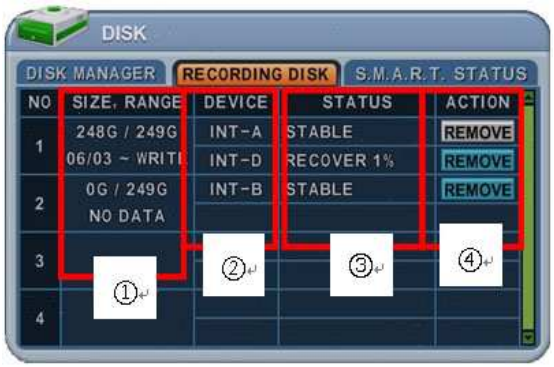
3. Press the **[+]** button to start selected action.

4. Save changes and exit the menu, select [save] then press the [MENU] button. Exit the menu without making changes, press the [ESC] button.

5.2. Recording DISK

This information lists the installed drives, how the NVR records video and their respective capacities which are currently being used for recording.





1. Size, Range
   : This displays current recorded data size, HDD size and indicated stored data range, and where the writing progress is running

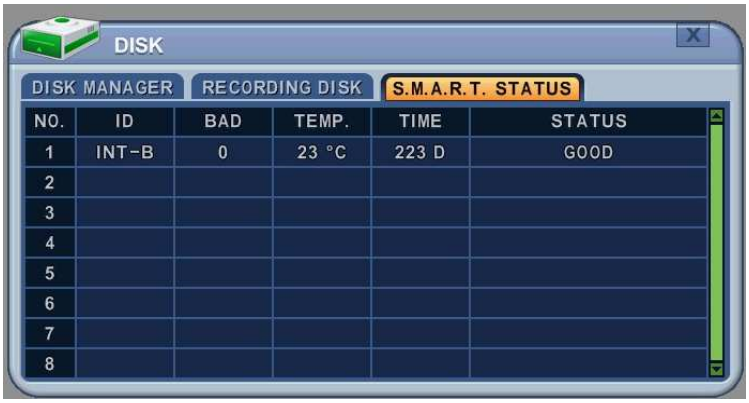
2. Device
   Displays logical Master and Slave device in mirroring. Upper device is the Master and the other is used for slave. If the slave HDD reaches 100% synchronisation, Master HDD can be removed as well.

3. Status
   1) Stable: The HDD is in a stable condition.
   2) Re-sync: Force all pending buffered disk writes to the NEW installed disk.
   3) Recover: Recover all mismatched data between the mirrored disks.

4. Action: Remove HDD.
   The “Are you sure?” dialogue box opens.

Press the up/down [◂▸] buttons to YES or NO, then press the **[-, +]** button to select.

5.3. S.M.A.R.T STATUS



Displays HDD information, such as Bad Sector, Temperature and HDD running time. S.M.A.R.T information has slight differences between depending on the HDD manufacturer. We recommend changing the HDD if its status is in <PRE-FAIL>

***NOTE : Please refer to STATUS explanation**

Status	Explanation
GOOD	GOOD
PRE-FAIL	Alerts that may be a problem
PAST PRE-FAIL	“PRE-FAIL” occurred before
FAIL	Find problem / need to replace

6. NETWORK

A static service consists of an IP address that remains constant for the duration of the contract of the internet service, whereas a dynamic service has an IP address that changes every time a new connection is made through the provided modem, or recurrently in a given period of time. Though most internet service providers offer both solutions, this manual will distinguish between the two solutions, according to the commonly available service types, to configure the NVR for the networking purposes.

6.1. LAN Port

1. **LAN PORT**

   1) Config: Select IP address type.

   2) IP Address: Enter the static IP address

   3) Netmask: Enter the IP address of the subnet mask.

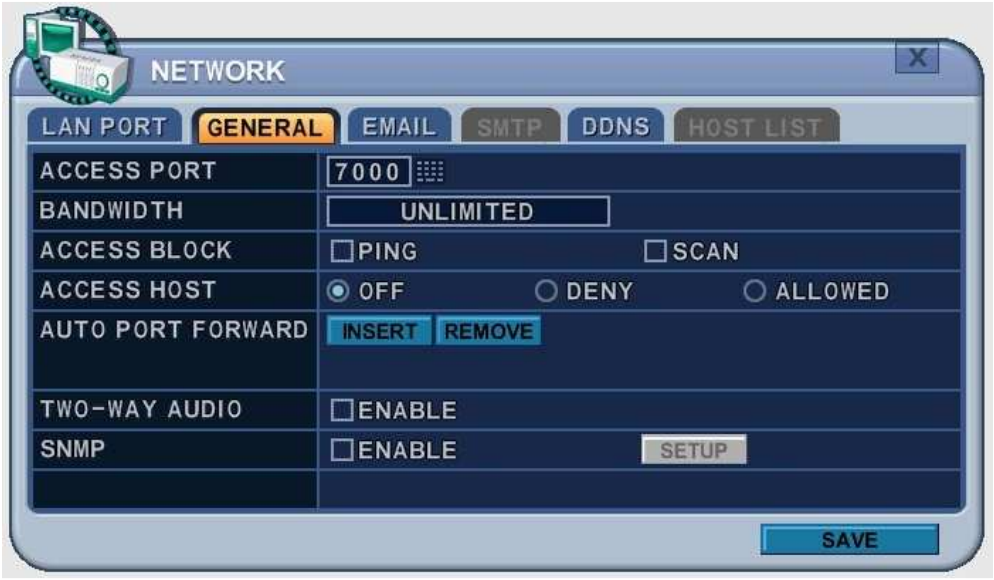
   4) Gateway: Enter the IP address for the internet gateway server.

   5) PRI.DNS Server: Verify the name of the domain name system.

   6) SEC.DNS Server: Enter the IP address of the backup domain name system (DNS) server that the NVR will use to convert name to IP address. This server is used if the primary DNS server fails.

   <Note> if you do not set up the DNS server correctly, it will have problem with mail sending.

6.2. GENERAL



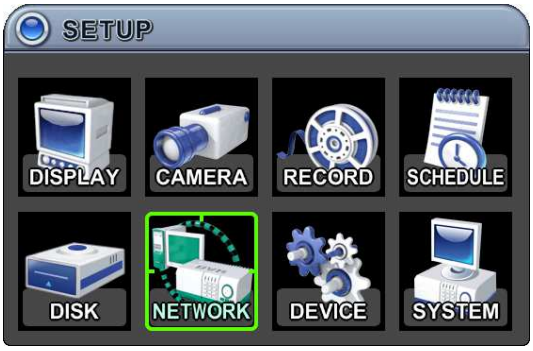
1. Access Port: Select “0001 ~ 9999”
   Enter the port number the client uses to communicate with the NVR over the internet. The default port is 7000. It is recommended to use a port above 1000.
2. Bandwidth: Select the network bandwidth to limit the amount of network resources allocated to client connection. The default is unlimited: “ 4 KBPS ~ 8 MBPS”
3. Access Block 1) Ping Block: No response to ping. By default OFF.
   2) Scan Block: No response to Auto Scan from EMS. By default OFF.
4. Access Host and Host List: Allows you to access or deny specific IP address. To allow or deny remote access requires you to enter a range of IP addresses as an IP address and mask. Host List will be activated when you select deny or allowed.

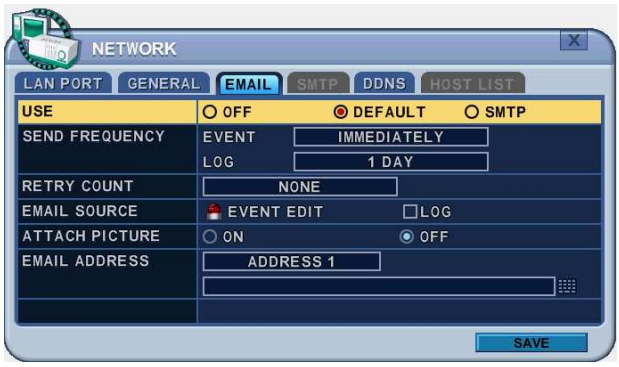
5. Auto Port FWD: Select the ADD button to automatically open ports for Router communication with UPNP compliance.

6. 2 Way Audio: Support 2 way Audio between NVR and Remote Software

6.3. EMAIL

This NVR allows you to specify the events that generate notification. Sends e-mail notification if an event occurs, such as alarm, motion detected etc.





The mail server can use either the NVR mail server or your existing e-mail settings.
The menus are displayed with options in the left-hand column and settings in the right hand column. A cursor (highlighted menu) can be moved using the directional buttons [▲▼◀▶].

1. USE: Select the e-mail notification ON or OFF. The default is OFF. Press the **[-, +]** buttons to select. Using the mouse, click the option to select mail server.
   1) **Default:** Default it is provided by manufacturer. Mail notification options and mail address settings are available.

   2) **SMTP**: SMTP Configuration tab is activated to set up your own mail settings.

2. **Send Period:** e-mail will be sent at selected intervals.
   1) Event: [Immediately, 10 Minutes, 1 hour, 1 Day]
   2) Log: [1 Day, 1 Week]

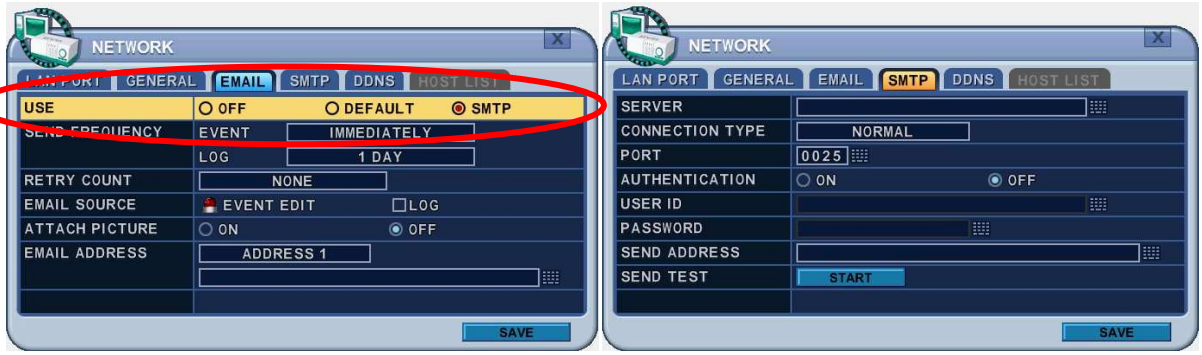
3. **Retry Count**: Select the number of retry attempts to send e-mail after failure.

4. **E-mail Source:** Event must be specified using notification options.
   1) Event Edit. Notifications can be enabled for each channel for Alarm, Motion, Video Loss and System (HDD Fail, Record Fail, HDD Full etc.). Press the [OK] button to select.

5. Log: This NVR will mail Log List at selected intervals.
6. Attach Picture: While in recording mode, a picture can be attached to mail.
7. E-mail Address: 5 mail addresses can be configured for mail notification.

6.4. SMTP

This menu is activated when you check <SMPT> on EMAIL.
The following settings are only needed if you are NOT using the NVR mail server.

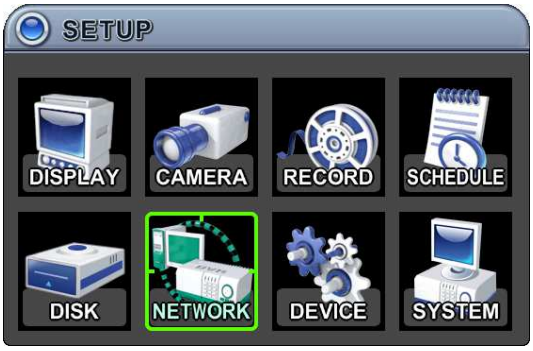


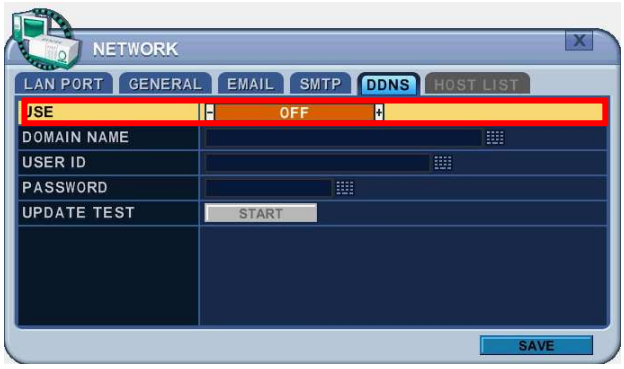
1. Server: Enter the e-mail server name or IP address. To set server name, use the virtual keyboard, or press the appropriate numeric button on IR Remote or front panel.
2. Port: Define the port the SMTP server will communicate through. By default, it is set to 25.
3. Authentication: Check this <ON> if your mail server requires authentication.
4. User ID & Password: Enter the user ID/name and password for the SMTP Server. (Distinguish Upper and Lower Case： use Lower case by Front or IR remote, press [OK] button at this cell, virtual keyboard will be pops up.)
5. Send Test: Test to send e-mail.

6. Save changes and exit the menu, select [save] and press the [MENU] button.
   Exit the menu without making changes, press the [ESC] button.

6.5. DDNS (Dynamic DNS)

This NVR offers free dynamic DNS update. It keeps track of your changing IP address. It's easiest to use.





The menus are displayed with options in the left-hand column and settings in the right hand column. A cursor (highlighted menu) can be moved using the directional buttons [▲▼◀▶].

1. USE: Select one method among DDNS OFF, Default, DYNDNS and NO-IP.
   The default is OFF. Press the **[-, +]** buttons to select. Using the mouse, click the option to select DDNS provider.

   1) **Default:** Default it is provided by manufacturer. We offer DDNS service for remote at http://www.dvrhost.com
   If you are using <Default> for DDNS, you do not need to setup anything. It does not allow you to create a host name; it's provided by the NVR. Press the [info] button on IR remote or select on the menu, then check your host name and Mac address.

For example, http://G5837A0.dvrhost.com:7000

2) **DYNDNS**: To use your own domain name service or “dyndns.com”

2. The following settings are only needed if you are NOT using the default.
   1) Domain Name: Enter the name you set for the DDNS web configuration.
   2) User ID: Enter your user ID.
   3) Password: Enter your password.
   4) Update Test: Click the Update Test button to confirm the connection. A success message will appear.

3. Save changes and exit the menu, press the [MENU] button.
   Exit the menu without making changes, press the [ESC] button.

6.6 Router & Port Forwarding

A majority of networks will often consist of a single IP address which shares internet access through a router. This IP address may be any external (public) static IP address or any dynamic IP address issued by the Internet Service Provider.

The purpose of a router is to enable multiple personal computers and any other devices that require internet connection to access the internet simultaneously. Most routers by default enable (open) commonly used ports so that mainstream applications such as Hypertext Transfer Protocol (HTTP, Port 80), File Transfer Protocol (FTP, Port 21), Telnet (Port 23) and Post Office Protocol 3 (POP3, Port 110) are used.

To solve the firewall problem, and let a visitor into the network, the user instructs the router to allow traffic to pass through on a given port. This is known as Port Forwarding, as the router forwards (directs) all internet requests on a specific port to the local machine. With port forwarding, external visitors are able to connect to the NVR while other internal devices remain protected.

Here is the example of NVR connection.

Network	Router	NVR IP Setting	PC Connect position ① LAN			PC Connect position ② WAN		CF
			A	B	C	B	C	
Static IP	use	STATIC	○	△	X	★	★	
		DHCP	○	▲	X	☆	★	Check the NVR IP of info and set into Router.
	x	STATIC	○	○	○	○	○	
		DHCP						N/A [Need Local DHCP Server]
DHCP	use	STATIC	○	△	X	★	★	
		DHCP	○	△	X	★	★	Check the NVR IP of info and set into Router
	x	STATIC						N/A
		DHCP				△	△	PPPOE is not supported

1) Description of Location.

A. LAN: Connect by Local IP. If you are connecting from within your network you only

need to enter the IP address of the system into the S/W (example 192.168.0.50)

B. WAN: Connect by DDNS. If you are connecting from outside your network use the DDNS to configure the S/W (example L123456.dvrhost.com).

C. WAN: Connect by IP address. If you are connecting from outside your network and if you know your Static IP address, use the IP address to configure the S/W (example http://124.137.23.72:6000).

2) Description of Symbols.

○ : Connected.

x : Not able to connect

△: There's some limitation - depends on Router or Network connection

★ : Need to use Port Forwarding

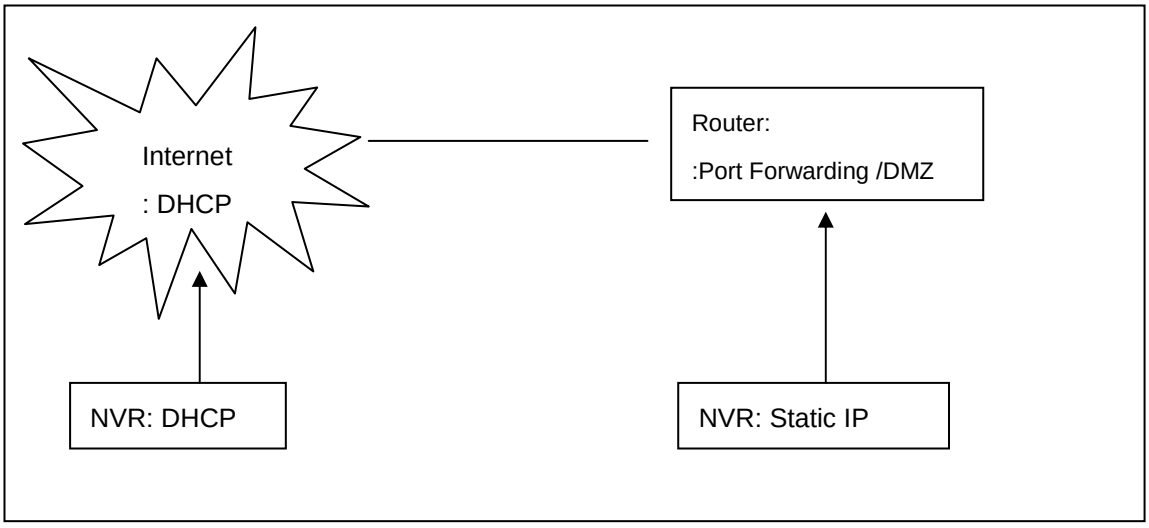
3) Description of Colors.

Yellow - Recommended

Grey - Not available

White – Depends on Router or Network condition.

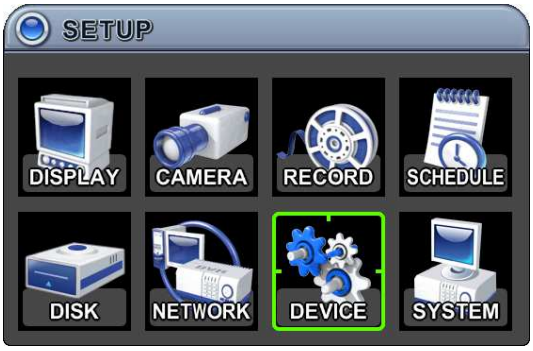
2. How to use NVR for DHCP



<Note> Each Router has different port forwarding settings. Please refer to the router manual or contact to your router manufacture for assistance

7. DEVICE

7.1. GENERAL



1) DISPLAY : Please decide output video resolution

- It can be set to the correct video resolution on the monitor.

[1920*1080P(default)→ 800*600 → 1024*768 → 1280*720 → 1280*1024 → 1600*1200 → 1680*1050 → 1920*1080I]

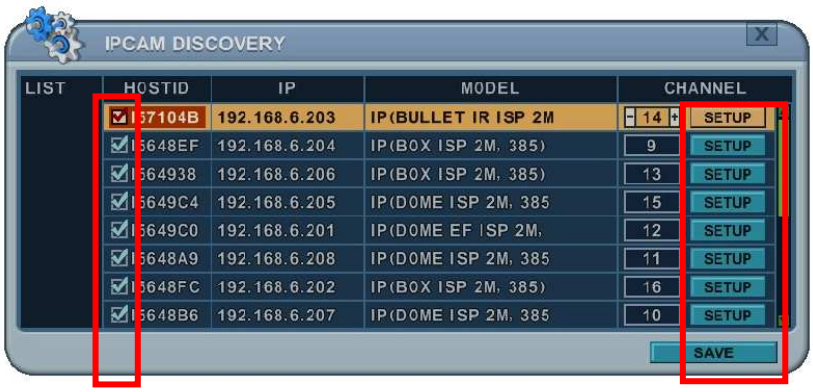
- **HDMI AUTO**

  Automatically detects and sets the HDMI resolution on the monitor connected to the NVR. It might display “no video” if a VGA monitor is not able to support high resolution.

<NOTE>In order to connect HDMI and VGA output to use both monitors, please set up as the lowest resolution without selecting HDMI AUTO.

2) Keypad Model: Select Joystick Controller and Baud Rate.
3) Extend Device: Select a model of POS/ATM.
4) PTZ Event: DURATON [OFF,1SEC ~ 5 SEC]: Select PTZ EVENT duration.
5) Alarm Out: DURATON [OFF,1SEC ~ 5 SEC]: Select Alarm duration.
6) IP CAM SET UP :

After click SETUP menu, all IP cameras which are connected in LAN network will be listed in the IP CAM Discovery menu.



A. HOST ID : It shows HOST ID of IP camera.

Please check IP camera which user want to see in monitor.

B. IP : It shows current IP address of IP camera.

C. MODEL : It shows type of IP camera.

D. CHANNEL : User can assign channel and set up information about ID, PASSWORD and network setting.

Note. Even though ID and PASSWORD is incorrect, it shows in live monitor.
But user cannot change IP camera's setting in camera menu.

7) IP CAM SET UP :

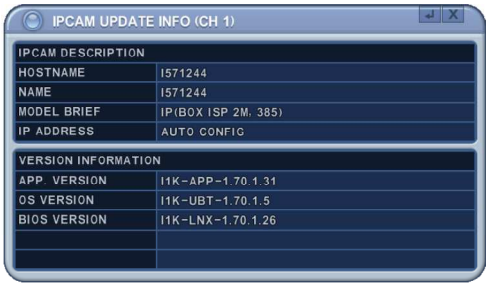
After click START in the menu, user can upgrade all Camera which are connected with NVR.

A. Copy upgrade file to USB stick.

B. Insert USB stick.

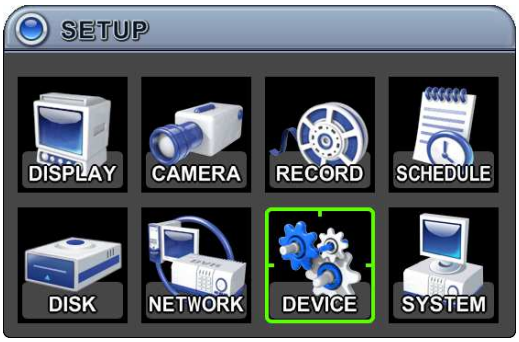
C. Select upgrade file in UPDATE menu and select camera which user want to upgrae.

C.F. Please select up to 2 or 3 cameras. Because of IP camera performance, it will fail to upgrade when user can select more than 3 camerasin same time.



7.2. I/O Terminal

This NVR supports 4 Alarm Inputs and 1 x Relay Outputs.



1. Use the Left/Right buttons [◀▶] to select "I/O Terminal" menu tab. The menus are displayed with options in the left-hand column and settings in the right hand column. A cursor (highlighted menu) can be moved using the directional buttons [▲▼◀▶].

2. **SENSOR INPUT:** Change the input type. Use the **[-, +]** buttons to change the values.
   Note. Alarm of IP camera can be configured in CAMERA menu (Chapter 2.2)

3. **RELAY OUTPUT**: you can configure how the Relay Outputs are controlled: automatic or manual.
   1) **Use:** Change the output type.
   2) **Inactive:** Select turn off method of Relay Out.
      a. Event (Automatic): Relay Out is turned OFF when the event expires. This setting is configured globally.
      b. Manual: Relay Out is turned OFF from this menu <Control>.
   3) Event Edit
   - Press [OK] to edit multiple events. The menus are displayed with options in the left-hand column and settings in the right hand column. A cursor (highlighted menu) can be moved using the directional buttons [▲▼◀▶] on the IR remote or front panel.

- Change the options below using the [DEC/INC] buttons on the IR remote, or click

the mouse.

- System menu contains below

2. HDD Disk Fail
3. Record System Fail
4. Temperature Warning.
5. Fan Lock Warning
6. Voltage Warning
7. Low RTC Battery Warning
8. External Device Event
9. Network Link Disconnected
10. Admin Login
11. Power Recovery
12. Disk Full
13. Invalid Password in Sequence
14. Auxiliary Event (Reserved)

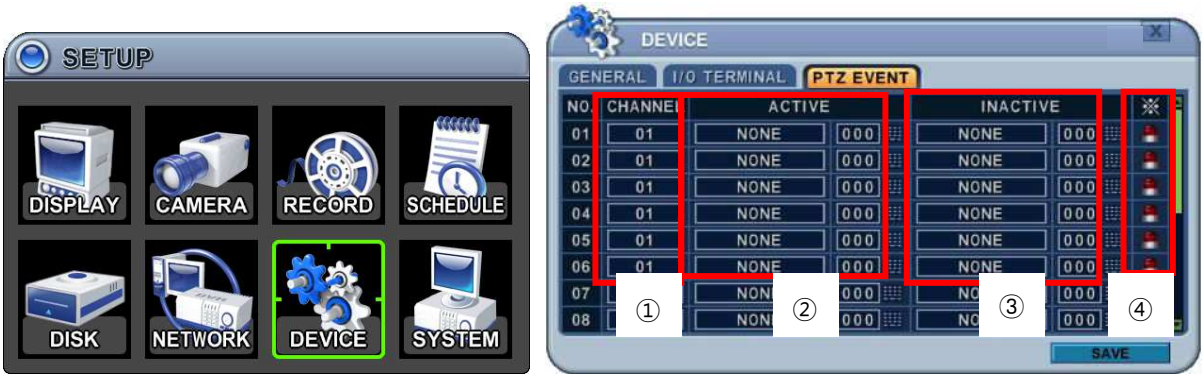
4) Control: Manual stops for relay output and buzzer.

4. Buzzer
   1) USE
      • **ON:** The Buzzer sounds if an alarm is triggered. The buzzer sounds for the duration of the RECORD TIME. This buzzer relates to Alarm Out. Configure Alarm Out to “ON” for Alarm Buzzer.
      •**OFF:** Disables the ALARM BUZZER function.
   2) **Inactive:** Select turn OFF Buzzer
      a. Event (Automatic): Buzzer is turned OFF when the event time expires.
      b. Manual: Buzzer is turned OFF from this menu <Control>.

5. Save changes and exit the menu, press the [MENU] button.
Exit the menu without making changes, press the [ESC] button.

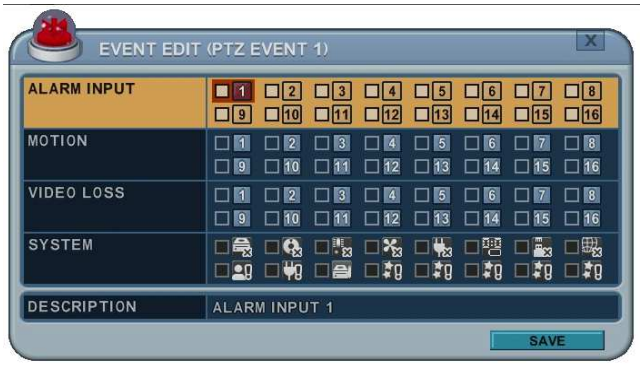
7.3. PTZ EVENT

When an Alarm is triggered, Motion detected or Video Loss occurs, this NVR sends a preset command to a PTZ camera. The PTZ option must be enabled and a protocol must be assigned to the camera channel.



1. Channel: Select desired PTZ camera.
2. Active: Configure PTZ action **[NONE → GOTO → TOUR]** and Preset number or Tour group when an event is detected.
3. Inactive: Select Camera position after the event duration expires.
4. Event Edit.

   Press [OK] to edit multiple events. The menus are displayed with options in the left-hand column and settings in the right hand column. A cursor (highlighted menu) can be moved using the directional buttons [▲▼◀▶] on the IR remote or front panel.

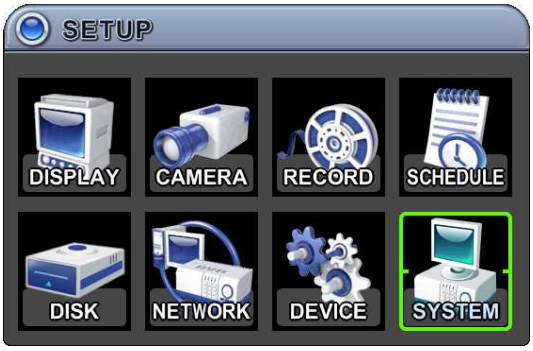


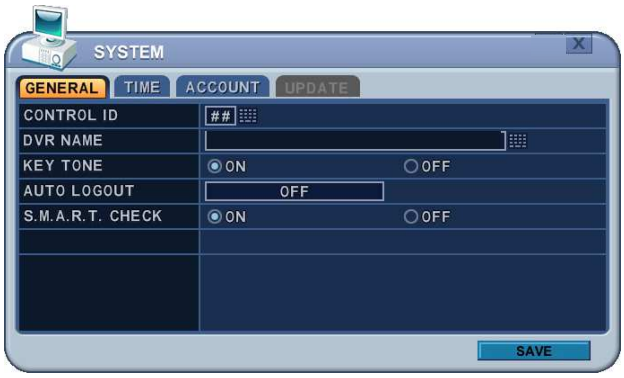
<Note> Do NOT set up Motion detection on the PTZ camera used for a PTZ event. The signal will be looped.

5 . Save changes and exit the menu, press the [MENU] button.
Exit the menu without making changes, press the [ESC] button.

8. SYSTEM

8.1. GENERAL





1. **Control ID:** Each NVR that is preconfigured with the control ID is enabled to respond to, and be operated by, the remote control.

- To select the NVR to be controlled with the remote controller, press and hold the NVR ID button. While holding the NVR ID button, press the appropriate NVR ID number. For example, enter 05 for NVR ID 05, enter 43 for NVR ID 43 etc. Set the ID of IR controller on “00” to control multiple NVR’s at the same time, whatever the NVR ID is.

2. **Device Name:** Type a NVR name to distinguish its location when you have several NVR’s on a Network.

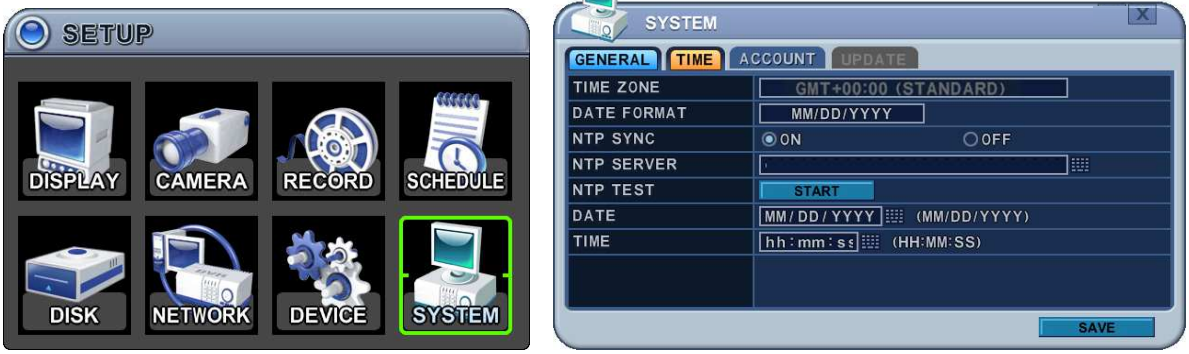
3. **KEY TONE**: By default, the NVR emits a beep every time a button is pressed. Set the key tone to OFF to turn the button beep off. By default it’s “ON”

4. **AUTO LOGOUT**: You can configure the NVR to automatically log users out.
   By default it’s “OFF”. **[**OFF → 1 Minute → **3 Minute**→ 5 Minute→ 10 Minute**]**

5. **S.M.A.R.T. CHECK**: Turn ON or OFF to display HDD information in the SMART STATUS tab of the DISK menu.

8.2. TIME

Make sure to set up your Date and Time before starting to Record.



1. Use Left/Right buttons [◀▶] to select on “Time” menu tab. The menus are displayed with options in the left-hand column and settings in the right hand column. A cursor (highlighted menu) can be moved using the directional buttons [▲▼◀▶]. Press the **[-, +]** buttons to change the values.

   1) Time Zone: Refer to <Appendix 1: Time Zone Chart>
   Selects the time zone where the NVR is located. Time Zone contains DST (Daylight Saving Time) ON. If you choose Time Zone with DST, there is no change in the system time stamp for recorded data. When the Daylight Saving End date and time occurs the NVR’s time goes back one hour.

   2) Date Format: Select Date display format.
   [MM/DD/YYYY → DD/MM/YYYY → YYYY/MM/DD]

   3) NTP SYNC: The internal time of NVR can be synchronised with an external time source using NTP (Network Time Server) Configuration. If the NTP option is ON, the DATE and Time option is inactivate.

   4) NTP Server: Allows you to use a public or private NTP server. Enter the IP address of the server or domain. The default setting is public “pool.ntp.org”.

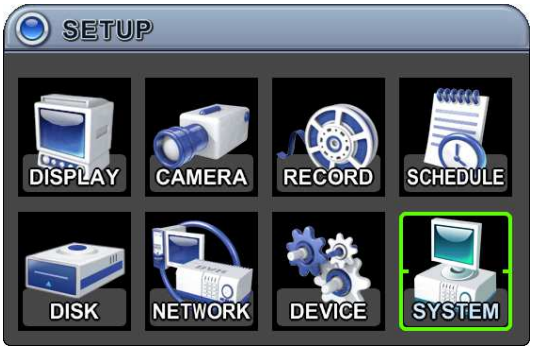
   <Note> Time Sync. Interval: Min 64 sec. Max 1024 sec.

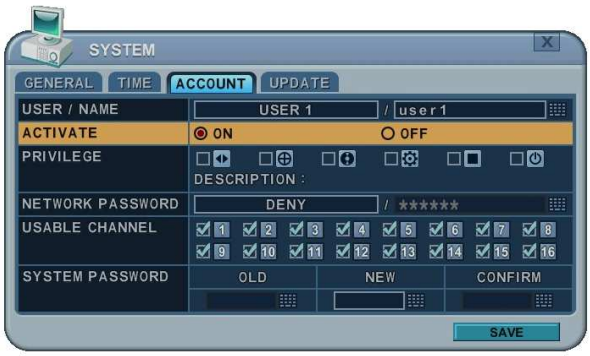
   5) NTP TEST: Test whether NTP Server works or fails.

   6) Date & Time: Set current time and date.

2. Save changes and exit the menu, press the [MENU] button.
   Exit the menu without making changes, press the [ESC] button.

8.3. ACCOUNT





1. Use the Left/Right buttons [◀▶] to select "Account" menu tab. The menus are displayed with options in the left-hand column and settings in the right hand column. A cursor (highlighted menu) can be moved using the directional buttons [▲▼◀▶]. Press **[-, +]** buttons to change the values.

   1) **User/Name**: The NVR comes preconfigured with ADMIN. Select a User 1~10, and then activate it by setting to **ON**.
      a. Name Length: up to 10 characters.
      b. Characters: A to Z, numerals 0 to 9.

   2) **Privilege**: Admin can define each user's Privilege, such as PLAYBACK, PTZ CONTROL, BACKUP, CONFIGURATION (except for Disk and System), RECORD STOP, and SYSTEM SHUTDOWN.

   3) **Network PASSWORD**: The NVR comes preconfigured with a System Password for Network access for Admin and/or Deny for User. It is possible to create different passwords for Network access; choose using [Custom P/W].
      a. Password Length: up to 14characters.
      b. Characters: A to Z, numerals 0 to 9.

   4) **Usable Channel**

Allow each user different live channels for monitoring.

5) **Password**

Enter the 6 characters for the new password, and then re-enter the same password under the COMFIRM section. An asterisk is displayed for each character entered.

2. Save changes and exit the menu, press the [MENU] button.
   Exit the menu without making changes, press the [ESC] button.

8.4. UPDATE

1. Download the latest firmware file and copy to USB Flash memory stick in the **Root** directory.

> **<NOTE >** Please make sure you download all of files below (20M).
> hd4k_all.00.00.00.img

2. Connect or insert into Front USB (please stop recording first).
3. Use directional buttons to move to the [Start] button. Press the **[+]** button to find upgrade files. If the NVR finds a valid upgrade file, the update menu is activated.

4. Press the **[-, +]** buttons to find correct upgrade file. Version information is displayed. If there are several valid update files, please check the display for the correct one.

5. Use the directional buttons to move to the [Start] button, then press **[OK]** button to start updating. While updating, an ”in progress #%” message is displayed.

6. After the update process is complete, a “Success” message is displayed. Press the **[OK]** button to restart. The NVR issues a single beep, if Micom update is included.

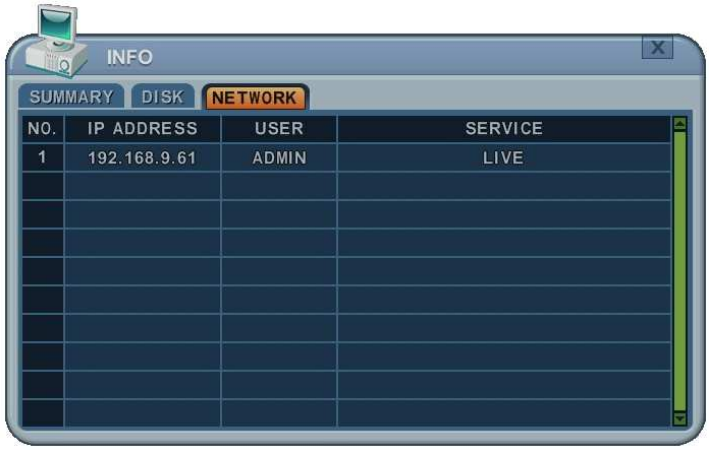
> **NOTE 1** Do not switch OFF or PRESS any key during the update process.
> **NOTE 2** Please consult your distributor or installer before update this.

8.5. INFO

Press [info] button on IR remote or select icon on the menu. The system information is displayed.

SUMMARY : It contains brief model information, Mac Address and installed HDD status

DISK : It contains all DISK information including internal & external HDDs and USB memory.



NETWORK : It shows IP address , USER and service of NET user.

VII. PAN/TILT ZOOM CONTROL

PTZ control is available for supported third-party dome cameras. The PTZ option must be configured for each camera channel. For PTZ setup, refer to Camera Menu> ***PTZ setup***.

The layout of the PTZ interface conforms to the layout of the front of the NVR or the remote controller. Menu button is the guide anchor position for all other buttons. When in PTZ interface mode, all buttons used for the PTZ related operation.

1. P.T.Z. Menu

1) To activate the Pan/Tilt Control, select the full screen display of the camera you wish to control.
2) Then press the **[P/T/Z/FOCUS]** button. Shortcut Menu box pops up, as shown below.

<Note > Please Refer to **Help Menu** for specific control.

INDICATOR	ACTIONS
[HELP] [CANCEL]	• Press this button to display **"HELP"** Menu. Press **[OK]** Button again, or **[CANCEL]** button to cancel Help Menu. • Press this button to cancel "PAN/TITL" Operation.
[OK] Button	• PTZ camera control interface will be extended to use whole function. Press this button again to make short-cut menu.
	• To Tilt up and Down. • To pan Right and Left.
	• Zooming In and Out.

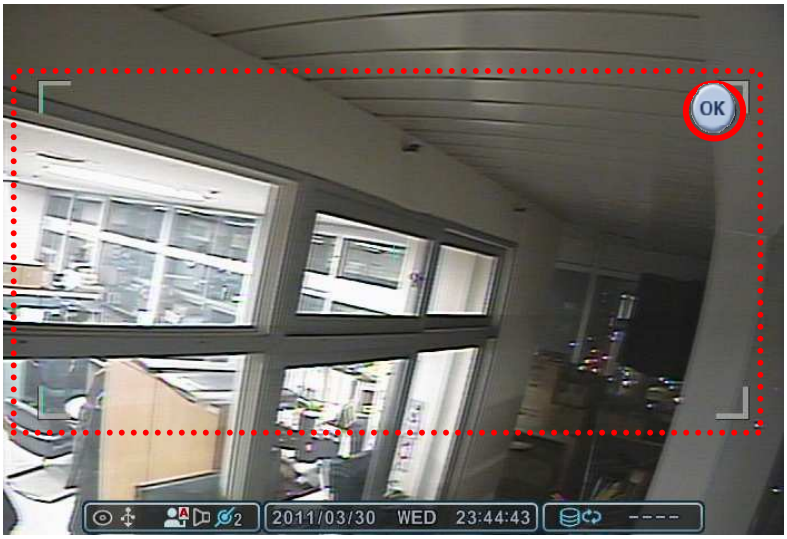
2.1 How to control PTZ by mouse

User can control PTZ camera by mouse controller.
It follows mouse cursor instead of using direction button to move.

1) Press PTZ button on the virtual remote controller.

2) PTZ menu and control box is displayed like below picture.
3) Place the mouse cursor inside of rectangle boundary and move the mouse cursor while pressing left mouse button to the direction you want.

Note. Mouse cursor cannot get out of this rectangle while pressing left mouse button.



4) Press M menu button to have the virtual PTZ controller. Zoom in / out, Go To, Tour and other function can be controlled by using the virtual PTZ controller.

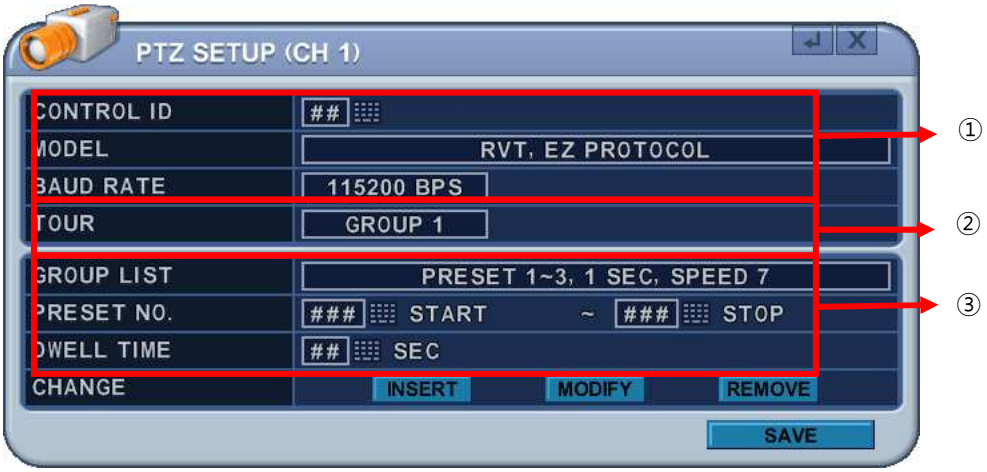
5) To escape from PTZ mode, press ESC button on PTZ controller. Or click (right button) the outside of control box to have the virtual remote controller. Then click ESC button.

2. Preset & Tour

Button	Function
	Set preset position; SPOT OUT on remote controller Move the PTZ into desired location. Press the Preset button. Custom 1 will illuminate. Set the # for the Preset location. Press OK to save and exit.
	Go to preset position; INFO on remote controller Press Go to button. Enter the desired Preset # and press OK.
	Start Auto Tour; BACKUP on remote controller Press Auto Tour Button. Press the + button and enter the range of Preset and press OK.

2.1 Tour Group

A preset Tour Group allows a camera to move through a programmed sequence of PTZ presets.



1) **Communication settings.**
   Configure appropriate model and then enter the corresponding baud rate, PTZ ID (address). Please refer to the PTZ manufacture's instruction manual for proper jumper settings to match the protocols to the NVR.

2) **Tour:** There are 4 programmable Tours. Using the **[-, +]** button to change the values [Group 1→ Group 2 → Group 3 → Group 4]

3) This is sub menu of each Tour group. The menus are displayed with options on the left-hand column and settings in the right hand column.
   a. **Group List:** Each Tour Group consists of up to 10 preset positions.
   b. **Preset no**.: Enter the start preset no and stop preset.
   c. **Dwell Time**: Set the pause between end of current preset and the start of the next preset.
   d. **Change:** Add, modify or clear the Tour list using this option.
   f. Repeat the procedure in ***step b*** to **d** to add Tour list.

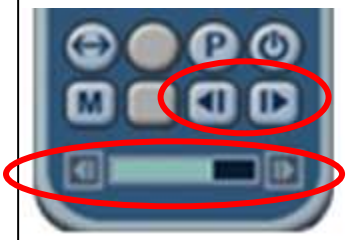
3. Custom Functions

Button	Function
	PTZ custom function 1; DISPLAY on remote controller
	PTZ custom function 2; ZOOM on remote controller
	PTZ custom function 3; P/T/Z on remote controller

4. Auto Pan / Auto Tilt / Power

Button	Function
	Auto Pan; STOP on remote controller
	Auto Tilt; REW on remote controller
	Power on / off; FF on remote controller

<Note> Speed has 1~8 steps



1 (Slow) – 8 (Fast)

VIII. PLAYBACK / SEARCH

The NVR supports 2 playback modes; Playback and Search. The NVR offers a variety of search functions that enable you to quickly and efficiently locate and review a specific period from the database. It supports three different search modes: Date/Time, Event, Event Area and Log Search.

1. Playback

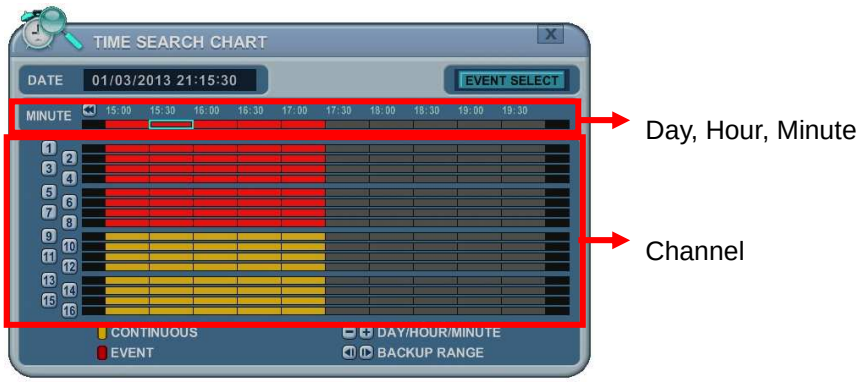
When the [PLAY] button is pressed, the NVR starts to play back any recorded data from the latest data, whether in live or recording mode. When the NVR reaches the end of the recorded data, it stops the playback.

During the playback, the NVR may be played back in reverse, paused, speed search up to 16 times the normal speed, or move through picture by picture.

2. Time Search

2.1 Multi Channel Playback

1. Press the [Time Search] **[Time Search]** button to access the time search table. Day will be displayed. The data is colour-coded by category: EVENT (Red) > Normal (Yellow)



2. Use the **[+]** button to navigate to the desired **Day→Hour→Minute (5min) →Minute (30 sec)**. Use the **[-]** button to go back Minute (30sec) →Minute (5min) →Hour→Day.

   When using the mouse, the wheel is used for the [+/-] button.

   <Note> Use the **[Play]** button to move to the end of data

   Use the **[Rewind]** or [**Fast-forward]** buttons to move to the next page.

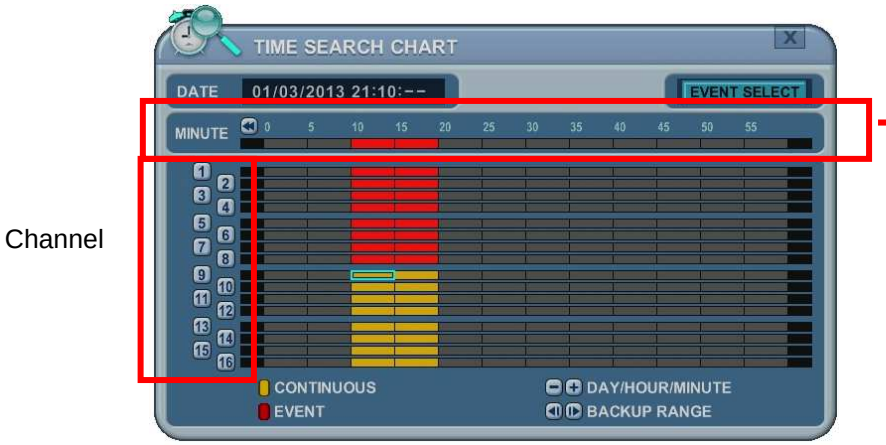
3. To review all channels, press the **[OK]** button on the slot on the bar. When using the mouse, double click.

4. The NVR starts the playback mode, displaying all channels. Any channel number or the DISPLAY button may be pressed to change the display mode.

2.2 Preview Search (Single Channel Playback)

The NVR allows you to quickly review a single channel of playback over a period of Day, Hour, and Minute.

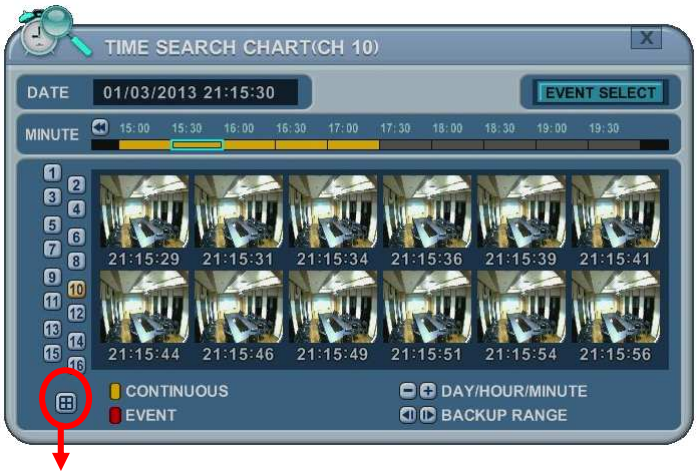
1. Press the [Time Search] button to access the time search table. Day will be displayed.



Day, Hour, Minute

Channel

2. Choose the desired channel to review by pressing a numeric button or Click Channel number on the left.



Return button to chart.

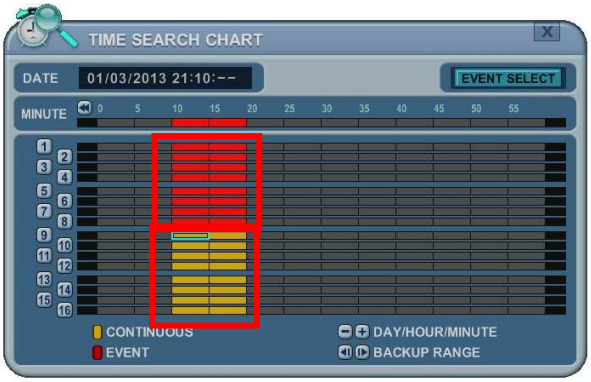
3. Use the **[+]** button to navigate to the desired **Day→Hour→Minute (5min) →Minute (30sec)**. Use the **[-]** button to go back Minute (30sec) →Minute (5min) →Hour→Day. When using the mouse, the wheel is used for [+/-] button.
4. While reviewing snapshot, use numeric buttons to review other channel.
5. Use the directional button to select snapshot and, press the **[OK]** button. Using mouse,

double click.

6. The NVR starts the playback mode, displaying the selected channel. Any channel number, or the DISPLAY button, can be pressed to change the display mode.

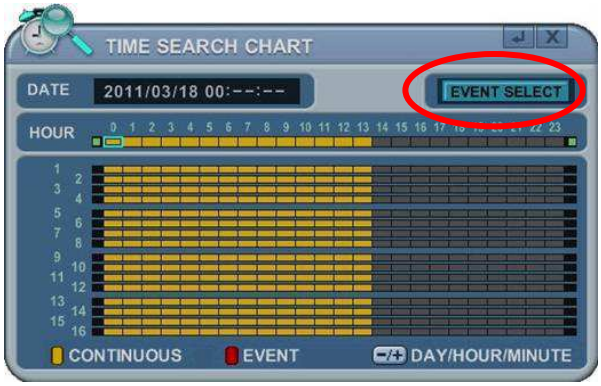
2.3 Event Record Search

Event Record search feature allows you to search for recorded video by event. The time search table displays time events. As a default, the TIME SEARCH CHART displays CONTINUOUS recording (Yellow) and EVENT recording (Red). TIME SEARCH CHART displays different outcomes according to the SEARCH MODE below.



[FIGURE 1]

1. Press the “Event Select “ button to change search mode.



2. Press [OK] to set up. Press [+/-] button to select “event record”.

3. Press [+/-] button to select “SEARCH MODE “(Event Source /Motion Area).

By selecting Search Mode, TIME SEARCH CHART displays different outcomes.

<Note> EVENT RECORD is set by default and makes the TIME SEARCH CHART display EVENT recording in Red as above FIGURE 1.

2.4 Event Source Search

Event source search feature allows you to search the recording data for ALARM, MOTION and VLOSS events previously triggered on the NVR.

1. Press [+/-] button to select “Event Source” in search mode.
   And select the event source (Alarm, Motion, Vloss) which you want to search.

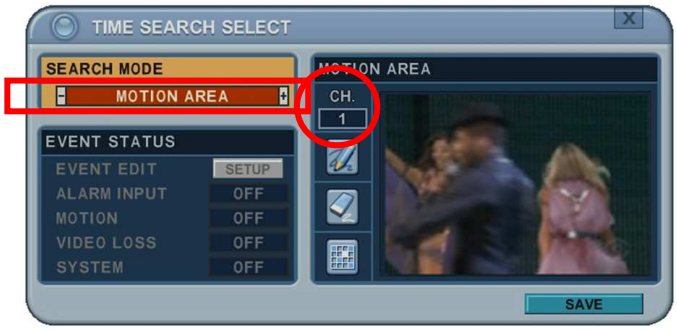
   1) ALARM: Select Alarm Input 1~4.
   2) MOTION: Select the channel 1~16.
   3) VLOSS (Video Loss): Select the channel 1~16.
   4) SYSTEM: Inactivated

2. Users can have multiple selections by pressing n, as shown below.

2.5 Motion Area Search (Single Channel Playback)

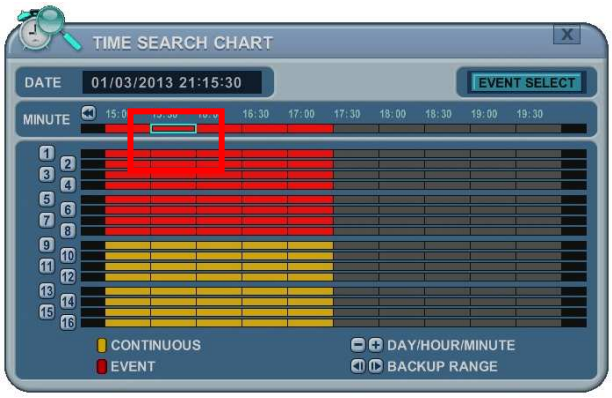
The NVR searches for recorded video that matches the search area defined by selected cells.

1. Select “MOTION AREA” (single channel playback) to search the recording data that has motion in a specific area on a certain channel.



2. Press the [+/-] button to select the channel you want to search.
3. Select the motion area you want to search.
   : Select all grids
   : Deselect all grids
   : Select grids, one by one, by pressing the [+/-] button

4. Press the MENU button and the TIME SEARCH CHART displays recording data, in red, to show what’s happened on that channel.



3. Go to Search

1. Press the [Time Search] button for 2 second and the [Time Input] menu pops up.
2. Set the date and time you wish to search.
3. Press [OK] or [Menu] to start searching.

4. Log List Search

The logs can be used to search, and to review, any point in time of the recorded data. Alarm, Motion, Video Loss and system related logs can be searched and played back directly from the time of the incident.

1. To start an Event Search, press the **[Log]** button on the IR Remote and the Log List Menu pops up, as shown below.

MENU TAB	CONDITION
ALL	• A list of all events since the initial NVR power on procedure.
SYSTEM	• Shows the System List.
NETWORK	• Shows the NETWORK List.
EVENT	• Shows the Events List.
VIDEO LOSS	• Shows Video Loss List.

2. Use the Up/Down buttons [▼▲] to the desired “Time” to playback. Use the Left/Right buttons [◀▶] to move to the NEXT page.

3. Press the **[OK]** button to start playback.

<Note>

1) Log list is saved on HDD.

2) For more detailed information press

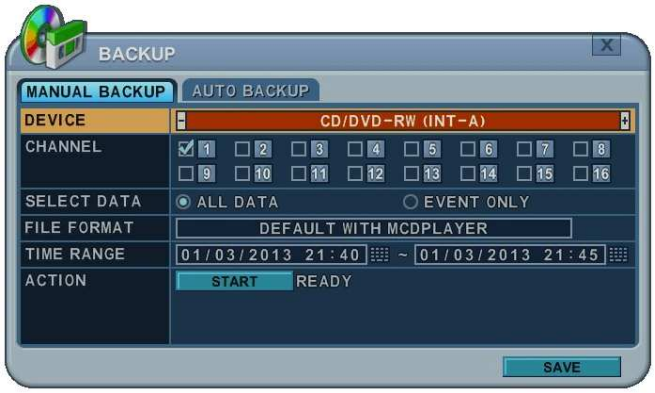
IX. BACKUP

1. Back Up

1.1 External DVD- R/W

1. External USB-HDD, CD/DVD-RW is recognized within 10 seconds after plug in USB connection cable to USB port in NVR.

   1) Plug in USB connector into the USB connection port on the front panel.
   2) Press [BACKUP] button to display the backup menu.

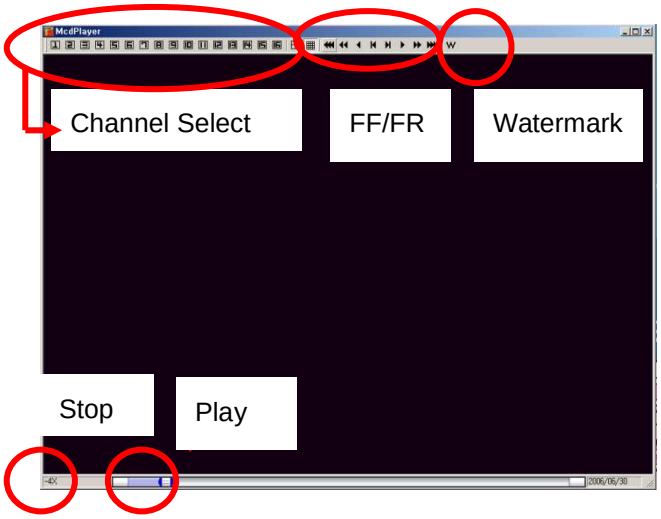


   3) Use the **[-, +]** buttons to change device selection: USB CD/DVD RW
   4) Use the **[-, +]** button to select a channel. All channels are set by default.
   5) Select the data for BACKUP.
      (1) ALL Data: Normal Recording Data
      (2) Event Only: Event Recording Data.
   6) File format when saving is ".s" AVI is not supported for CD/DVD
   7) Select the time range starting time and ending time.
   8) Enter the numbers as required in 24-hour format, then move to START.
   9) Press the **[+]** button to start BACKUP..

2. The progress of the backup is displayed at the bottom of the window as a percentage of the entire backup process. The OSD disappears by pressing cancel button. However, pressing the Backup button again will show the Backup status. It is recommended that playback is not performed while the NVR is in a backup session.

   1) When finished, the media is ejected.

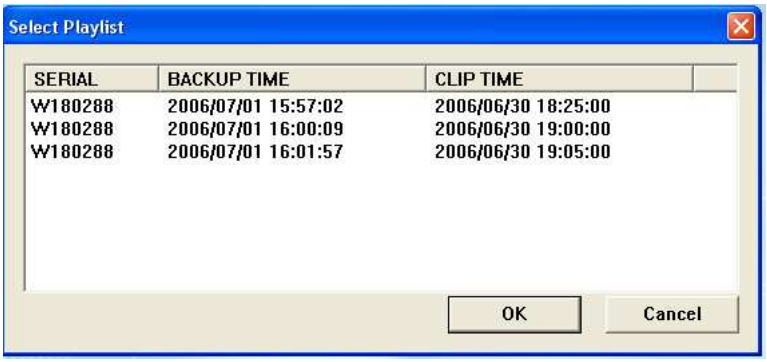
3. If there is not enough space on the media the NVR automatically ejects the disk when it's full and resume the process once new media is inserted into the drive.



* The CD Playback software will simply "**auto-run**" and does not require any software installation on your PC.

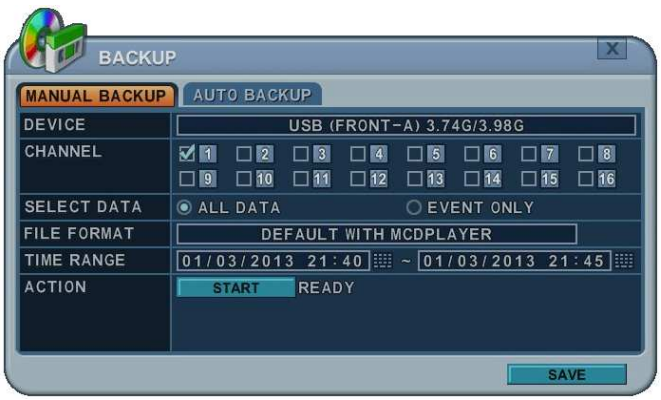
<Note 1> Please Refer to [LOCAL PLAYER] section to read about backup devices.

<Note 2> When you back up as Multi-Section the Play List pops up instead of Auto Run.



1.2 External USB Memory Stick

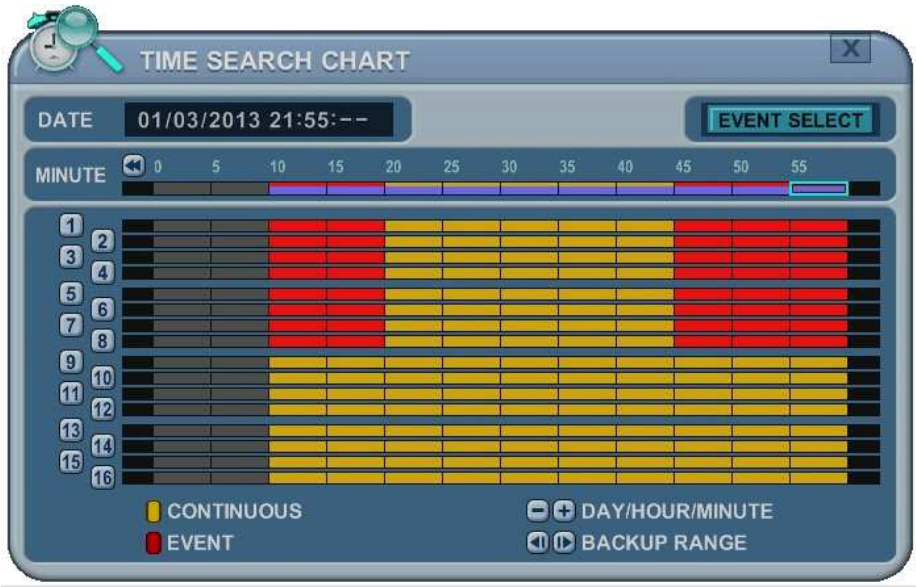
The external drive procedure is the same as using the internal CD/DVD-RW for backup.



To read USB backup HDD in Window, format to FAT32 or NTFS.
To backup as an AVI File, set the file format to AVI using the [+] button.

1.3 Back up Range Setup

Press the **[◄❙] button** to set backup start time and press the **[❙►] button** to set the end. Selected time changes to a Violet color.



Selected backup time is displayed on the backup range.
[LOG IN/OUT] button is toggled for the range.

2. Backup (FTP): Not available

1. Use **[-, +]** button to change select device: FTP

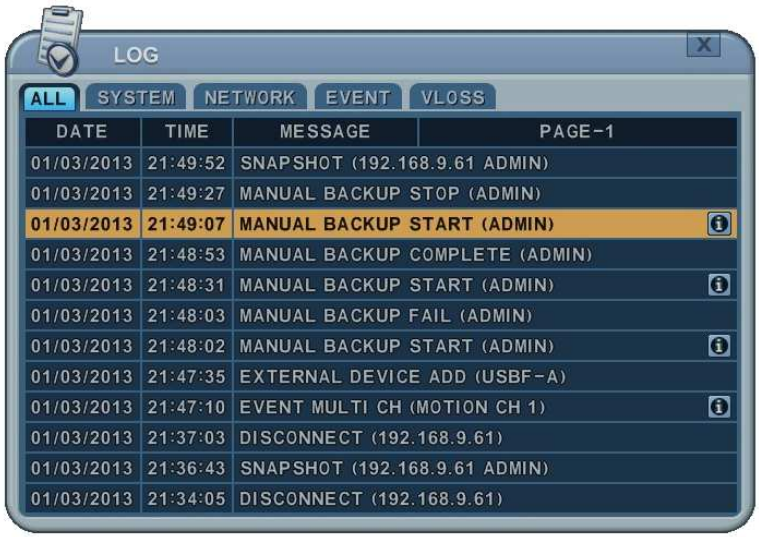
2. Use direction button to move FTP setup. The menus are displayed with options on the left-hand column and settings in the right hand column.

ITEM	ADJUSTMENT
Server	• Select Highlight FTP Server and then press numeric buttons to define an FTP server.
Port	• Define the port that the FTP server will communicate through.
User ID	• Enter the user ID of FTP Server. (It is recognized as a small letter, even it's displayed as a Capital Letter)
Password	• Enter the password. (It is recognized as a small letter, we do not support capital Letter)
Connection	• Select PASSIVE mode or REGULAR Mode.
BACKUP PATH	• The path should be made in FTP server in advance. Mac address is set with the default in consideration of the situation that lots of NVRs may backup its file to the one FTP server.

<Note> Please Refer to [LOCAL PLAYER]/ [Mini-Player] section to read Back-up file.

3. Backup (LOG)

1. Plug in USB memory stick to USB port.
2. Press "Log" button to see Log list of NVR.



3 . Press “backup” button to save log list to USB memory stick.

1) Use **[-, +]** button to select device.
2) Select type of log list among ALL, SYSTEM, NETWORK, EVENT and VLOSS.
3) Select the time range starting time and ending time.
4) Press **[+]** button to start BACKUP.

WEEE Symbol Information

Correct Disposal of This Product
(Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicates, that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

Appendix 1: Time Zone Chart

Standard Time	Time Zone
GMT+00:00	Standard
	European DST
GMT+01:00	Standard
	European DST
	Namibia DST
GMT+02:00	Standard
	Israel DST
	European DST
	Lebanon DST
	Jordan DST
	Russia DST
	Egypt DST
GMT+03:00	Standard
	Russia DST
GMT+03:30	Iran DST
GMT+04:00	Standard
	Azerbaijan DST
	Russia DST
GMT+04:30	Standard
GMT+05:00	Pakistan DST
	Russia DST
GMT+05:30	Standard
GMT+05:45	Standard
GMT+06:00	Standard
	Russia DST
GMT+06:30	Standard
GMT+07:00	Standard
	Russia DST
GMT+08:00	Standard
	Russia DST
GMT+09:00	Standard
	Russia DST
GMT+09:30	Standard
	Australia DST
GMT+10:00	Standard
	Russia DST
	Australia DST
GMT+11:00	Standard
	Russia DST
GMT+12:00	Standard
	New Zealand DST
GMT+13:00	Standard
GMT-01:00	Standard
	European DST
GMT-02:00	Standard
GMT-03:00	Standard
	Brazil DST
	European DST
	Uruguay DST
GMT-04:00	Chile DST
	US DST
GMT-04:30	Standard
GMT-05:00	Standard
	US DST
GMT-06:00	Standard
	Mexico DST
	US DST
GMT-07:00	Standard
	Mexico DST
	US DST
GMT-08:00	Standard
	Mexico DST
	US DST
GMT-09:00	Standard
	US DST
GMT-10:00	Standard
GMT-11:00	Standard

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